

Grade 3 Foundation Workbook

23 lessons · printable · answer key at the back

Name _____

Date _____

Contents (1 of 2)

Chapter 1 · Place Value and Rounding	
1-1 Rounding to 10 and 100	1
Chapter 2 · Multiplication Facts	
2-1 Equal Groups: the 2 Times Table	2
2-2 The 5 and 10 Times Tables	3
2-3 The 3 and 4 Times Tables	4
2-4 The 6 and 7 Times Tables	5
2-5 The 8 and 9 Times Tables	6
2-6 Mixed Times Tables	7
Chapter 3 · Division Facts	
3-1 Dividing by 2, 5 and 10	8
3-2 Dividing by 3, 4 and 6	9
3-3 Dividing by 7, 8 and 9	10
Chapter 4 · Word Problems	
4-1 Word Problems: Multiplication	11
4-2 Word Problems: Division	13

Contents (2 of 2)

Chapter 5 · Fractions 15

5-1 Equal Parts 15

5-2 Comparing Fractions 16

Chapter 6 · Patterns, Time and Shapes 17

6-1 Number Patterns 17

6-2 True, False or Fix It 18

6-3 Telling the Time 19

6-4 Naming Shapes 21

6-5 Area by Counting Squares 23

6-6 Perimeter 25

6-7 Bar Graphs and Line Plots 27

6-8 Picture Graphs 29

Chapter 7 · Review 31

7-1 Review: Times Tables and Division 31

Rounding to 10 and 100

WORKED EXAMPLE

$$439 \approx \underline{440}$$

1. Rounding numbers

Round each number to the nearest 10.

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 337 $\approx$ _____ | 2 749 $\approx$ _____ | 3 979 $\approx$ _____ | 4 67 $\approx$ _____ |
| 5 962 $\approx$ _____ | 6 694 $\approx$ _____ | 7 293 $\approx$ _____ | 8 585 $\approx$ _____ |
| 9 758 $\approx$ _____ | 10 169 $\approx$ _____ | 11 562 $\approx$ _____ | 12 888 $\approx$ _____ |
| 13 357 $\approx$ _____ | 14 447 $\approx$ _____ | 15 816 $\approx$ _____ | 16 857 $\approx$ _____ |
| 17 679 $\approx$ _____ | 18 441 $\approx$ _____ | 19 872 $\approx$ _____ | 20 593 $\approx$ _____ |
| 21 104 $\approx$ _____ | 22 771 $\approx$ _____ | 23 232 $\approx$ _____ | 24 716 $\approx$ _____ |

Equal Groups: the 2 Times Table

2. The 2 times table

Work out each product.

1 $1 \times 2 = \underline{\quad}$

2 $2 \times 2 = \underline{\quad}$

3 $5 \times 2 = \underline{\quad}$

4 $3 \times 2 = \underline{\quad}$

5 $4 \times 2 = \underline{\quad}$

6 $7 \times 2 = \underline{\quad}$

7 $10 \times 2 = \underline{\quad}$

8 $6 \times 2 = \underline{\quad}$

9 $9 \times 2 = \underline{\quad}$

10 $8 \times 2 = \underline{\quad}$

3. Missing factors: the 2 times table

Write the missing number in each one.

11 $\underline{\quad} \times 2 = 4$

12 $\underline{\quad} \times 2 = 8$

13 $\underline{\quad} \times 2 = 14$

14 $\underline{\quad} \times 2 = 2$

15 $\underline{\quad} \times 2 = 6$

16 $\underline{\quad} \times 2 = 10$

17 $\underline{\quad} \times 2 = 16$

18 $\underline{\quad} \times 2 = 12$

4. Word problems: multiplying

Read each problem. Write the answer.

- 19 Jordan filled 2 crates with 2 notebooks in each. Jordan has 5 tickets as well.

How many notebooks does Jordan have in all?

The 5 and 10 Times Tables

WORKED EXAMPLE

$$6 \times 5 = \underline{30}$$

5. The 5 times table

Work out each product.

1 $2 \times 5 = \underline{\quad}$

2 $4 \times 5 = \underline{\quad}$

3 $7 \times 5 = \underline{\quad}$

4 $1 \times 5 = \underline{\quad}$

5 $3 \times 5 = \underline{\quad}$

6 $5 \times 5 = \underline{\quad}$

7 $8 \times 5 = \underline{\quad}$

6. The 10 times table

Work out each product.

8 $4 \times 10 = \underline{\quad}$

9 $2 \times 10 = \underline{\quad}$

10 $7 \times 10 = \underline{\quad}$

11 $3 \times 10 = \underline{\quad}$

12 $1 \times 10 = \underline{\quad}$

13 $5 \times 10 = \underline{\quad}$

14 $9 \times 10 = \underline{\quad}$

15 $6 \times 10 = \underline{\quad}$

16 $10 \times 10 = \underline{\quad}$

17 $8 \times 10 = \underline{\quad}$

7. Word problems: multiplying

Read each problem. Write the answer.

- 18 Courtney arranged carrots in 4 rows with 2 in every row.

How many carrots did Courtney arrange?

- 19 Lucia laid out 3 rows of bread rolls, 2 to a row.

How many bread rolls are laid out?

The 3 and 4 Times Tables

8. The 3 times table

Work out each product.

1 $2 \times 3 = \underline{\quad}$

2 $1 \times 3 = \underline{\quad}$

3 $7 \times 3 = \underline{\quad}$

4 $3 \times 3 = \underline{\quad}$

5 $4 \times 3 = \underline{\quad}$

6 $6 \times 3 = \underline{\quad}$

7 $9 \times 3 = \underline{\quad}$

8 $5 \times 3 = \underline{\quad}$

9 $8 \times 3 = \underline{\quad}$

10 $10 \times 3 = \underline{\quad}$

9. The 4 times table

Work out each product.

11 $2 \times 4 = \underline{\quad}$

12 $4 \times 4 = \underline{\quad}$

13 $5 \times 4 = \underline{\quad}$

14 $1 \times 4 = \underline{\quad}$

15 $3 \times 4 = \underline{\quad}$

16 $6 \times 4 = \underline{\quad}$

17 $10 \times 4 = \underline{\quad}$

18 $7 \times 4 = \underline{\quad}$

19 $8 \times 4 = \underline{\quad}$

20 $9 \times 4 = \underline{\quad}$

10. Word problems: multiplying

Read each problem. Write the answer.

- 21 Maya filled 2 crates with 4 notebooks in each.

How many notebooks does Maya have in all?

- 22 Jordan laid out 3 rows of folders, 2 to a row.

How many folders are laid out?

The 6 and 7 Times Tables

11. The 6 times table

Work out each product.

1 $2 \times 6 = \underline{\quad}$

2 $3 \times 6 = \underline{\quad}$

3 $5 \times 6 = \underline{\quad}$

4 $4 \times 6 = \underline{\quad}$

5 $1 \times 6 = \underline{\quad}$

6 $7 \times 6 = \underline{\quad}$

7 $9 \times 6 = \underline{\quad}$

8 $6 \times 6 = \underline{\quad}$

9 $10 \times 6 = \underline{\quad}$

10 $8 \times 6 = \underline{\quad}$

12. The 7 times table

Work out each product.

11 $3 \times 7 = \underline{\quad}$

12 $2 \times 7 = \underline{\quad}$

13 $7 \times 7 = \underline{\quad}$

14 $1 \times 7 = \underline{\quad}$

15 $4 \times 7 = \underline{\quad}$

16 $5 \times 7 = \underline{\quad}$

17 $9 \times 7 = \underline{\quad}$

18 $6 \times 7 = \underline{\quad}$

19 $10 \times 7 = \underline{\quad}$

20 $8 \times 7 = \underline{\quad}$

13. Missing factors: the 7 times table

Write the missing number in each one.

21 $\underline{\quad} \times 7 = 28$

22 $\underline{\quad} \times 7 = 7$

23 $\underline{\quad} \times 7 = 49$

24 $\underline{\quad} \times 7 = 21$

25 $\underline{\quad} \times 7 = 14$

14. Rounding numbers

Round each number to the nearest 10.

26 $141 \approx \underline{\quad}$

27 $914 \approx \underline{\quad}$

28 $546 \approx \underline{\quad}$

29 $361 \approx \underline{\quad}$

30 $585 \approx \underline{\quad}$

31 $878 \approx \underline{\quad}$

32 $87 \approx \underline{\quad}$

33 $233 \approx \underline{\quad}$

34 $253 \approx \underline{\quad}$

35 $286 \approx \underline{\quad}$

The 8 and 9 Times Tables

15. The 8 times table

Work out each product.

1 $3 \times 8 = \underline{\quad}$

2 $2 \times 8 = \underline{\quad}$

3 $5 \times 8 = \underline{\quad}$

4 $1 \times 8 = \underline{\quad}$

5 $4 \times 8 = \underline{\quad}$

6 $7 \times 8 = \underline{\quad}$

7 $9 \times 8 = \underline{\quad}$

8 $6 \times 8 = \underline{\quad}$

9 $10 \times 8 = \underline{\quad}$

10 $8 \times 8 = \underline{\quad}$

16. The 9 times table

Work out each product.

11 $2 \times 9 = \underline{\quad}$

12 $3 \times 9 = \underline{\quad}$

13 $7 \times 9 = \underline{\quad}$

14 $1 \times 9 = \underline{\quad}$

15 $4 \times 9 = \underline{\quad}$

16 $6 \times 9 = \underline{\quad}$

17 $10 \times 9 = \underline{\quad}$

18 $5 \times 9 = \underline{\quad}$

19 $9 \times 9 = \underline{\quad}$

20 $8 \times 9 = \underline{\quad}$

17. Word problems: multiplying

Read each problem. Write the answer.

- 21 Elena arranged notebooks in 3 rows with 4 in every row.

How many notebooks did Elena arrange?

- 22 Milo arranged treats in 3 rows with 4 in every row.

How many treats did Milo arrange?

Mixed Times Tables

WORKED EXAMPLE

$$9 \times 3 = \underline{27}$$

18. Multiplication

Work out each product.

- | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| 1 $3 \times 2 = \underline{\quad}$ | 2 $5 \times 3 = \underline{\quad}$ | 3 $10 \times 2 = \underline{\quad}$ | 4 $2 \times 3 = \underline{\quad}$ |
| 5 $2 \times 4 = \underline{\quad}$ | 6 $4 \times 3 = \underline{\quad}$ | 7 $5 \times 6 = \underline{\quad}$ | 8 $2 \times 6 = \underline{\quad}$ |
| 9 $3 \times 5 = \underline{\quad}$ | 10 $6 \times 1 = \underline{\quad}$ | 11 $4 \times 7 = \underline{\quad}$ | 12 $4 \times 1 = \underline{\quad}$ |
| 13 $2 \times 1 = \underline{\quad}$ | 14 $2 \times 8 = \underline{\quad}$ | 15 $2 \times 5 = \underline{\quad}$ | 16 $8 \times 1 = \underline{\quad}$ |
| 17 $1 \times 7 = \underline{\quad}$ | 18 $6 \times 6 = \underline{\quad}$ | 19 $1 \times 2 = \underline{\quad}$ | 20 $1 \times 1 = \underline{\quad}$ |
| 21 $2 \times 9 = \underline{\quad}$ | 22 $9 \times 1 = \underline{\quad}$ | 23 $2 \times 7 = \underline{\quad}$ | 24 $1 \times 10 = \underline{\quad}$ |

19. Word problems: multiplying

Read each problem. Write the answer.

- 25 Rosa filled 3 trays with 5 cookies in each. Besides those, Rosa has 9 cupcakes.

How many cookies does Rosa have in all?

- 26 Marian set out 2 equal rows with 5 cupcakes in each row.

How many cupcakes are there in all?

- 27 Dana set out 5 equal rows with 5 treats in each row.

How many treats are there in all?

- 28 Elena laid out 3 rows of folders, 5 to a row.

How many folders are laid out?

Dividing by 2, 5 and 10

WORKED EXAMPLE

$$18 \div 2 = \underline{9}$$

20. Dividing by 2

Work out each quotient.

1 $2 \div 2 = \underline{\quad}$

2 $6 \div 2 = \underline{\quad}$

3 $12 \div 2 = \underline{\quad}$

4 $8 \div 2 = \underline{\quad}$

5 $4 \div 2 = \underline{\quad}$

6 $14 \div 2 = \underline{\quad}$

7 $20 \div 2 = \underline{\quad}$

8 $10 \div 2 = \underline{\quad}$

21. Dividing by 5

Work out each quotient.

9 $10 \div 5 = \underline{\quad}$

10 $5 \div 5 = \underline{\quad}$

11 $25 \div 5 = \underline{\quad}$

12 $15 \div 5 = \underline{\quad}$

13 $20 \div 5 = \underline{\quad}$

14 $30 \div 5 = \underline{\quad}$

15 $40 \div 5 = \underline{\quad}$

16 $35 \div 5 = \underline{\quad}$

17 $45 \div 5 = \underline{\quad}$

18 $50 \div 5 = \underline{\quad}$

22. Dividing by 10

Work out each quotient.

19 $30 \div 10 = \underline{\quad}$

20 $20 \div 10 = \underline{\quad}$

21 $50 \div 10 = \underline{\quad}$

22 $40 \div 10 = \underline{\quad}$

23 $10 \div 10 = \underline{\quad}$

24 $70 \div 10 = \underline{\quad}$

25 $80 \div 10 = \underline{\quad}$

26 $60 \div 10 = \underline{\quad}$

27 $90 \div 10 = \underline{\quad}$

28 $100 \div 10 = \underline{\quad}$

23. Word problems: dividing

Read each problem. Write the answer.

- 29 Noah packed 24 tickets into shelves of 6.

How many shelves did Noah fill?

- 30 Marian packed 24 bread rolls into boxes of 6.

How many boxes did Marian fill?

- 31 Rosa put 18 cookies equally into 3 trays.

How many cookies went in each tray?

Dividing by 3, 4 and 6

24. Dividing by 3

Work out each quotient.

1 $3 \div 3 = \underline{\quad}$

2 $6 \div 3 = \underline{\quad}$

3 $21 \div 3 = \underline{\quad}$

4 $12 \div 3 = \underline{\quad}$

5 $9 \div 3 = \underline{\quad}$

6 $18 \div 3 = \underline{\quad}$

7 $27 \div 3 = \underline{\quad}$

8 $15 \div 3 = \underline{\quad}$

9 $30 \div 3 = \underline{\quad}$

10 $24 \div 3 = \underline{\quad}$

25. Dividing by 4

Work out each quotient.

11 $4 \div 4 = \underline{\quad}$

12 $8 \div 4 = \underline{\quad}$

13 $20 \div 4 = \underline{\quad}$

14 $16 \div 4 = \underline{\quad}$

15 $12 \div 4 = \underline{\quad}$

16 $28 \div 4 = \underline{\quad}$

17 $40 \div 4 = \underline{\quad}$

18 $24 \div 4 = \underline{\quad}$

19 $36 \div 4 = \underline{\quad}$

20 $32 \div 4 = \underline{\quad}$

26. Dividing by 6

Work out each quotient.

21 $24 \div 6 = \underline{\quad}$

22 $6 \div 6 = \underline{\quad}$

23 $36 \div 6 = \underline{\quad}$

24 $12 \div 6 = \underline{\quad}$

25 $18 \div 6 = \underline{\quad}$

26 $30 \div 6 = \underline{\quad}$

27 $54 \div 6 = \underline{\quad}$

28 $42 \div 6 = \underline{\quad}$

29 $48 \div 6 = \underline{\quad}$

30 $60 \div 6 = \underline{\quad}$

27. Word problems: dividing

Read each problem. Write the answer.

- 31 Rosa set out 10 croissants in 5 equal rows.

How many croissants are in each row?

Dividing by 7, 8 and 9

28. Dividing by 7

Work out each quotient.

- | | | | | | | | |
|---|---------------------------------|----|---------------------------------|---|---------------------------------|---|---------------------------------|
| 1 | $21 \div 7 = \underline{\quad}$ | 2 | $7 \div 7 = \underline{\quad}$ | 3 | $35 \div 7 = \underline{\quad}$ | 4 | $14 \div 7 = \underline{\quad}$ |
| 5 | $28 \div 7 = \underline{\quad}$ | 6 | $42 \div 7 = \underline{\quad}$ | 7 | $70 \div 7 = \underline{\quad}$ | 8 | $49 \div 7 = \underline{\quad}$ |
| 9 | $63 \div 7 = \underline{\quad}$ | 10 | $56 \div 7 = \underline{\quad}$ | | | | |

29. Dividing by 8

Work out each quotient.

- | | | | | | | | |
|----|---------------------------------|----|---------------------------------|----|---------------------------------|----|---------------------------------|
| 11 | $16 \div 8 = \underline{\quad}$ | 12 | $8 \div 8 = \underline{\quad}$ | 13 | $48 \div 8 = \underline{\quad}$ | 14 | $24 \div 8 = \underline{\quad}$ |
| 15 | $32 \div 8 = \underline{\quad}$ | 16 | $40 \div 8 = \underline{\quad}$ | 17 | $80 \div 8 = \underline{\quad}$ | 18 | $56 \div 8 = \underline{\quad}$ |
| 19 | $72 \div 8 = \underline{\quad}$ | 20 | $64 \div 8 = \underline{\quad}$ | | | | |

30. Dividing by 9

Work out each quotient.

- | | | | | | | | |
|----|---------------------------------|----|---------------------------------|----|---------------------------------|----|---------------------------------|
| 21 | $27 \div 9 = \underline{\quad}$ | 22 | $9 \div 9 = \underline{\quad}$ | 23 | $54 \div 9 = \underline{\quad}$ | 24 | $18 \div 9 = \underline{\quad}$ |
| 25 | $36 \div 9 = \underline{\quad}$ | 26 | $63 \div 9 = \underline{\quad}$ | 27 | $90 \div 9 = \underline{\quad}$ | 28 | $45 \div 9 = \underline{\quad}$ |
| 29 | $72 \div 9 = \underline{\quad}$ | 30 | $81 \div 9 = \underline{\quad}$ | | | | |

31. Word problems: dividing

Read each problem. Write the answer.

- 31 Omar packed 24 bread rolls into trays of 8. Omar also keeps 5 cupcakes.

How many trays did Omar fill?

- 32 Ana put 8 books equally into 2 shelves.

How many books went in each shelf?

- 33 Dev packed 10 bread rolls into boxes of 2. Dev also keeps 3 cookies.

How many boxes did Dev fill?

Word Problems: Multiplication

WORKED EXAMPLE

Lucia filled 3 boxes with 5 croissants in each.

How many croissants does Lucia have in all?

ANSWER: $3 \times 5 = 15$ croissants

32. Word problems: multiplying

Read each problem. Write the answer.

- 1 Courtney set out 3 equal rows with 3 food pellets in each row. Courtney also keeps 2 carrots.

How many food pellets are there in all?

- 2 Ana arranged notebooks in 2 rows with 6 in every row.

How many notebooks did Ana arrange?

- 3 Dana filled 2 feed bags with 9 carrots in each. Dana also has 5 water bottles.

How many carrots does Dana have in all?

- 4 Kwame arranged cupcakes in 4 rows with 2 in every row.

How many cupcakes did Kwame arrange?

- 5 Ravi set out 2 equal rows with 5 water bottles in each row.

How many water bottles are there in all?

- 6 Lucia filled 2 trays with 6 cookies in each.

How many cookies does Lucia have in all?

33. Dividing by 2

Work out each quotient.

7 $6 \div 2 = \underline{\quad}$

8 $8 \div 2 = \underline{\quad}$

9 $12 \div 2 = \underline{\quad}$

10 $2 \div 2 = \underline{\quad}$

11 $4 \div 2 = \underline{\quad}$

12 $14 \div 2 = \underline{\quad}$

Word Problems: Division

WORKED EXAMPLE

Ravi put 24 treats equally into 6 hutches.

How many treats went in each hutch?

ANSWER: $24 \div 6 = 4$ treats

34. Word problems: dividing

Read each problem. Write the answer.

- 1 12 croissants are arranged in 3 rows, with the same number in every row.

How many croissants stand in one row?

- 2 Dana set out 4 water bottles in 2 equal rows. Besides those, Dana has 9 treats.

How many water bottles are in each row?

- 3 Marian packed 40 croissants into trays of 8.

How many trays did Marian fill?

- 4 21 food pellets are arranged with 7 in each row.

How many rows does that make?

- 5 Farah laid out 14 carrots, putting 7 in every row.

How many rows did Farah make?

- 6 Priya packed 24 folders into shelves of 8.

How many shelves did Priya fill?

35. Rounding numbers

Round each number to the nearest 10.

7 **227** $\approx$ _____

8 **546** $\approx$ _____

9 **669** $\approx$ _____

10 **293** $\approx$ _____

11 **72** $\approx$ _____

12 **502** $\approx$ _____

Equal Parts

WORKED EXAMPLE

$$= \frac{1}{3}$$

36. Name the fraction

Answer each question.



37. Dividing by 7

Work out each quotient.

13 $28 \div 7 = \underline{\quad}$

14 $21 \div 7 = \underline{\quad}$

15 $42 \div 7 = \underline{\quad}$

16 $7 \div 7 = \underline{\quad}$

17 $14 \div 7 = \underline{\quad}$

18 $49 \div 7 = \underline{\quad}$

19 $56 \div 7 = \underline{\quad}$

20 $35 \div 7 = \underline{\quad}$

21 $70 \div 7 = \underline{\quad}$

22 $63 \div 7 = \underline{\quad}$

Comparing Fractions

WORKED EXAMPLE

$$\frac{1}{8} < \frac{2}{5}$$

38. Comparing fractions

Write $>$, $=$, or $<$ between each pair of fractions.

1 $\frac{1}{8} \bigcirc \frac{3}{4}$

2 $\frac{4}{6} \bigcirc \frac{4}{5}$

3 $\frac{1}{2} \bigcirc \frac{2}{5}$

4 $\frac{4}{7} \bigcirc \frac{3}{7}$

5 $\frac{7}{8} \bigcirc \frac{1}{2}$

6 $\frac{2}{7} \bigcirc \frac{3}{4}$

7 $\frac{5}{8} \bigcirc \frac{2}{8}$

8 $\frac{6}{8} \bigcirc \frac{1}{6}$

9 $\frac{1}{7} \bigcirc \frac{1}{4}$

10 $\frac{3}{7} \bigcirc \frac{4}{6}$

11 $\frac{5}{7} \bigcirc \frac{4}{7}$

12 $\frac{1}{2} \bigcirc \frac{1}{8}$

13 $\frac{2}{6} \bigcirc \frac{5}{8}$

14 $\frac{2}{7} \bigcirc \frac{5}{6}$

15 $\frac{4}{8} \bigcirc \frac{2}{8}$

16 $\frac{2}{8} \bigcirc \frac{2}{6}$

39. Rounding numbers

Round each number to the nearest 10.

17 $713 \approx \underline{\hspace{2cm}}$

18 $14 \approx \underline{\hspace{2cm}}$

19 $831 \approx \underline{\hspace{2cm}}$

20 $617 \approx \underline{\hspace{2cm}}$

21 $694 \approx \underline{\hspace{2cm}}$

22 $111 \approx \underline{\hspace{2cm}}$

23 $449 \approx \underline{\hspace{2cm}}$

24 $877 \approx \underline{\hspace{2cm}}$

25 $302 \approx \underline{\hspace{2cm}}$

26 $666 \approx \underline{\hspace{2cm}}$

WORKED EXAMPLE

3, 13, 23, 33, 43**40. Number patterns**

Find the missing number in each pattern.

- | | | |
|----------------------|----------------------|----------------------|
| 1 1, 9, 17, __, 33 | 2 6, 16, __, 36, 46 | 3 3, 13, __, 33, 43 |
| 4 8, __, 20, 26, 32 | 5 3, __, 9, 12, 15 | 6 8, 12, __, 20, 24 |
| 7 6, 11, 16, __, 26 | 8 8, 18, __, 38, 48 | 9 4, 8, __, 16, 20 |
| 10 3, 14, __, 36, 47 | 11 2, 6, 10, __, 18 | 12 3, 7, 11, __, 19 |
| 13 5, __, 19, 26, 33 | 14 3, 15, 27, __, 51 | 15 1, 8, __, 22, 29 |
| 16 9, __, 31, 42, 53 | 17 9, 12, 15, __, 21 | 18 4, 13, __, 31, 40 |
| 19 5, 13, __, 29, 37 | 20 8, 10, 12, __, 16 | 21 7, 15, 23, __, 39 |
| 22 8, 17, __, 35, 44 | 23 1, 4, 7, __, 13 | 24 3, 7, __, 15, 19 |
| 25 1, 3, 5, __, 9 | 26 2, __, 12, 17, 22 | 27 9, __, 21, 27, 33 |
| 28 6, 17, 28, __, 50 | 29 1, __, 11, 16, 21 | 30 6, __, 14, 18, 22 |
| 31 7, 10, __, 16, 19 | 32 4, __, 24, 34, 44 | 33 2, __, 14, 20, 26 |
| 34 9, 14, __, 24, 29 | 35 9, 20, 31, __, 53 | 36 2, __, 10, 14, 18 |
| 37 9, __, 25, 33, 41 | 38 4, 15, __, 37, 48 | 39 7, 11, __, 19, 23 |
| 40 3, __, 17, 24, 31 | 41 4, __, 14, 19, 24 | 42 5, 7, __, 11, 13 |
| 43 4, __, 22, 31, 40 | 44 7, __, 11, 13, 15 | 45 9, 21, 33, __, 57 |
| 46 2, 12, __, 32, 42 | 47 3, 6, __, 12, 15 | 48 7, 16, __, 34, 43 |
| 49 5, 9, 13, __, 21 | 50 6, __, 30, 42, 54 | |

41. Dividing by 7

Work out each quotient.

- | | | | |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 51 $7 \div 7 = \underline{\quad}$ | 52 $14 \div 7 = \underline{\quad}$ | 53 $35 \div 7 = \underline{\quad}$ | 54 $28 \div 7 = \underline{\quad}$ |
| 55 $21 \div 7 = \underline{\quad}$ | 56 $42 \div 7 = \underline{\quad}$ | 57 $63 \div 7 = \underline{\quad}$ | 58 $49 \div 7 = \underline{\quad}$ |
| 59 $70 \div 7 = \underline{\quad}$ | 60 $56 \div 7 = \underline{\quad}$ | | |

True, False or Fix It

WORKED EXAMPLE

Which number is the odd one out?

27

37

21

58

Why? **ANSWER:** the other three are all odd.

42. Reasoning puzzles

Read each question and write what you work out.

- 1 $\blacksquare + \blacksquare = 26$ and $\blacksquare + \bullet = 21$. What is $\bullet$?

Why?

- 2 $\bullet + \bullet = 16$ and $\bullet + \blacklozenge = 14$. What is $\blacklozenge$?

Why?

- 3 Which number is the odd one out?

7

24

9

36

Why?

- 4 Ana wrote $11 - 4 = 13$. Write the correct answer.

Why?

- 5 Sam wrote $26 + 34 = 59$. Write the correct answer.

Why?

- 6 Imani wrote $32 + 36 = 67$. Write the correct answer.

Why?

- 7 Which number is the odd one out?

40

30

22

10

Why?

Telling the Time

WORKED EXAMPLE

$$10:10 \rightarrow 10:50 = \underline{40} \text{ min}$$

43. Elapsed time

Write how many minutes pass between the two times.

- | | |
|--------------------------------|--------------------------------|
| 1 3:30 → 3:45 = ____
min | 2 12:30 → 12:50 = ____
min |
| 3 12:10 → 1:05 = ____
min | 4 10:10 → 10:35 = ____
min |
| 5 4:15 → 4:35 = ____
min | 6 12:05 → 12:50 = ____
min |
| 7 1:50 → 2:45 = ____
min | 8 9:55 → 10:10 = ____
min |
| 9 8:05 → 8:40 = ____
min | 10 2:55 → 3:05 = ____
min |
| 11 2:10 → 3:10 = ____
min | 12 10:05 → 10:55 = ____
min |
| 13 4:40 → 4:55 = ____
min | 14 8:00 → 9:05 = ____
min |
| 15 11:15 → 11:45 = ____
min | 16 11:10 → 11:55 = ____
min |
| 17 12:45 → 1:05 = ____
min | 18 1:55 → 2:55 = ____
min |
| 19 8:20 → 8:35 = ____
min | 20 4:00 → 4:30 = ____
min |
| 21 2:30 → 3:20 = ____
min | 22 2:10 → 2:40 = ____
min |
| 23 12:00 → 12:25 = ____
min | 24 7:00 → 7:25 = ____
min |
| 25 1:20 → 2:15 = ____
min | 26 12:10 → 12:35 = ____
min |

44. Comparing fractions

Write $>$, $=$, or $<$ between each pair of fractions.

27 $\frac{4}{7} \bigcirc \frac{1}{6}$

28 $\frac{6}{7} \bigcirc \frac{4}{6}$

29 $\frac{4}{6} \bigcirc \frac{4}{5}$

30 $\frac{2}{5} \bigcirc \frac{1}{5}$

31 $\frac{4}{6} \bigcirc \frac{3}{4}$

32 $\frac{4}{8} \bigcirc \frac{1}{6}$

33 $\frac{5}{6} \bigcirc \frac{2}{5}$

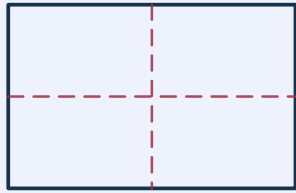
34 $\frac{4}{5} \bigcirc \frac{5}{7}$

35 $\frac{2}{7} \bigcirc \frac{4}{7}$

36 $\frac{3}{6} \bigcirc \frac{4}{6}$

Naming Shapes

WORKED EXAMPLE



hexagon

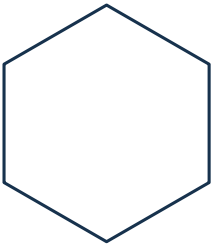
rectangle

triangle

45. Name the shape

Circle the name of each shape.

1



hexagon

rectangle

square

2

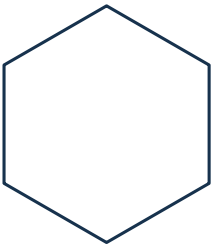


hexagon

rectangle

square

3

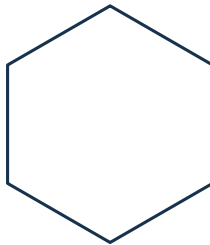


hexagon

octagon

rectangle

4

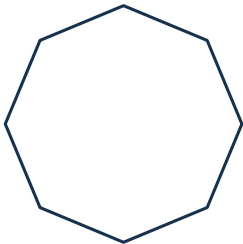


hexagon

octagon

triangle

5

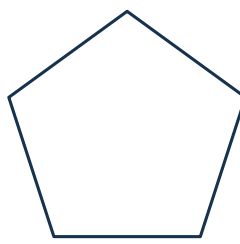


octagon

pentagon

triangle

6

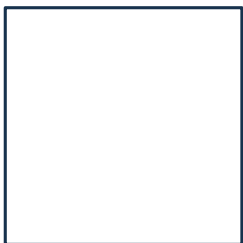


pentagon

rectangle

triangle

7

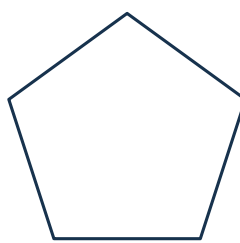


hexagon

pentagon

square

8



pentagon

rectangle

square

46. Number patterns

Find the missing number in each pattern.

9 2, 9, ____, 23, 30

10 9, ____, 19, 24, 29

11 6, 16, ____, 36, 46

12 2, 9, 16, ____, 30

13 8, 10, ____, 14, 16

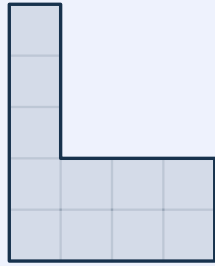
14 5, 16, ____, 38, 49

15 8, 16, 24, ____, 40

16 7, ____, 17, 22, 27

Area by Counting Squares

WORKED EXAMPLE

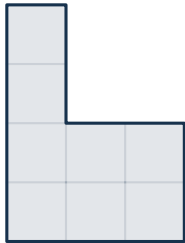


11 squares

47. Area by counting squares

Count the squares to find the area of each figure.

1



_____ squares

2



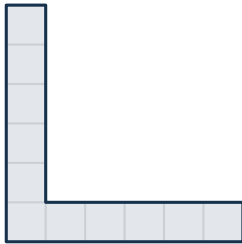
_____ squares

3



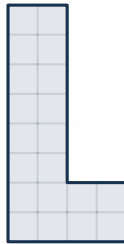
_____ squares

4



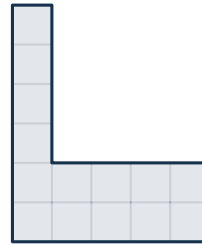
_____ squares

5



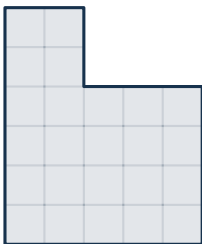
_____ squares

6



_____ squares

7



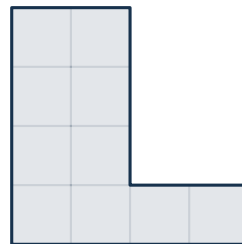
_____ squares

8



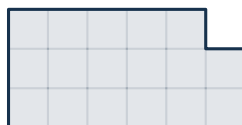
_____ squares

9



_____ squares

10



_____ squares

48. Rounding numbers

Round each number to the nearest 10.

11 **172** $\approx$ _____

12 **501** $\approx$ _____

13 **268** $\approx$ _____

14 **909** $\approx$ _____

15 **694** $\approx$ _____

16 **878** $\approx$ _____

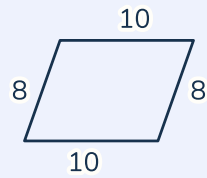
17 **877** $\approx$ _____

18 **257** $\approx$ _____

19 **723** $\approx$ _____

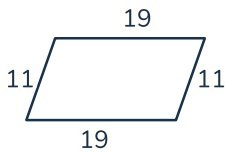
20 **931** $\approx$ _____

WORKED EXAMPLE

**36** cm**49. Perimeter**

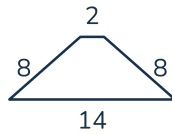
Add every side. All lengths are in centimeters.

1



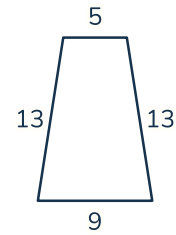
_____ cm

2



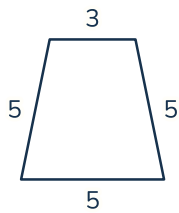
_____ cm

3



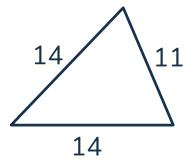
_____ cm

4



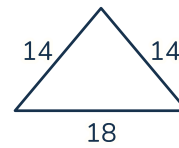
_____ cm

5



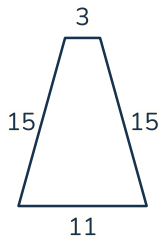
_____ cm

6



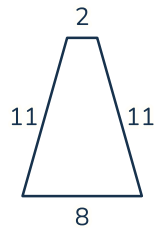
_____ cm

7



_____ cm

8



_____ cm

9



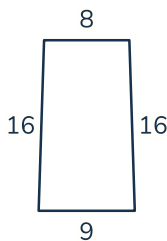
_____ cm

10



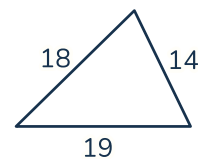
_____ cm

11



_____ cm

12



_____ cm

50. Elapsed time

Write how many minutes pass between the two times.

13 $6:05 \rightarrow 6:25 = \underline{\hspace{1cm}}$
min

15 $1:40 \rightarrow 2:20 = \underline{\hspace{1cm}}$
min

17 $5:05 \rightarrow 5:15 = \underline{\hspace{1cm}}$
min

19 $10:30 \rightarrow 11:20 = \underline{\hspace{1cm}}$
min

21 $6:30 \rightarrow 6:35 = \underline{\hspace{1cm}}$
min

14 $2:00 \rightarrow 2:55 = \underline{\hspace{1cm}}$
min

16 $3:15 \rightarrow 3:30 = \underline{\hspace{1cm}}$
min

18 $4:35 \rightarrow 4:55 = \underline{\hspace{1cm}}$
min

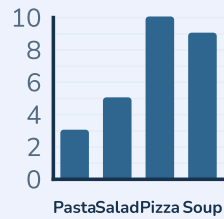
20 $3:05 \rightarrow 3:45 = \underline{\hspace{1cm}}$
min

22 $1:10 \rightarrow 1:50 = \underline{\hspace{1cm}}$
min

Bar Graphs and Line Plots

WORKED EXAMPLE

Lunches chosen today



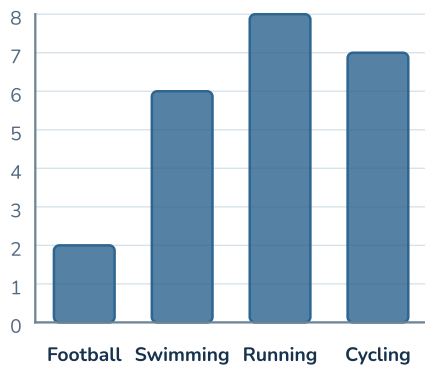
How many more chose salad and pizza than chose pasta?

12

51. Bar graphs

Read each bar graph and answer the question.

Our favorite sport



- 1 How many more chose swimming and running than chose football?

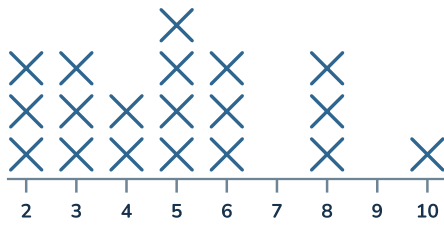
- 2 How many more chose football and swimming than chose cycling?

- 3 How many more chose football and running than chose swimming?

52. Line plots

Read each line plot and answer the question.

Length of worms we found (inches)



- 4 How many worms were longer than 3 inches?

—

- 5 How many worms were longer than 4 inches?

—

- 6 How many worms were longer than 5 inches?

—

Picture Graphs

WORKED EXAMPLE

Our favorite sport

Football	••
Swimming	•
Running	••••••••••
Cycling	••••

How many more chose swimming and running than chose football?

9

Each ● stands for 1.

53. Picture graphs

Read each picture graph and answer the question.

Books read this term

Ali	••••••••••
Bea	•
Caz	•••••
Dev	•••••••

Each ● stands for 1.

- 1 How many fewer for Bea than for Ali?

—

- 2 How many more for Ali than for Caz?

—

- 3 How many fewer for Dev than for Ali?

—

Lunches chosen today

Pasta	••••••••
Salad	••••••••••
Pizza	••••••••••
Soup	•

Each ● stands for 1.

- 4 How many more chose salad and pizza than chose pasta?

—

- 5 How many more chose pasta and pizza than chose salad?

—

- 6 How many more chose pasta and salad than chose pizza?

—

54. Dividing by 7

Work out each quotient.

7 $14 \div 7 = \underline{\quad}$

8 $7 \div 7 = \underline{\quad}$

9 $49 \div 7 = \underline{\quad}$

10 $21 \div 7 = \underline{\quad}$

11 $28 \div 7 = \underline{\quad}$

12 $42 \div 7 = \underline{\quad}$

Review: Times Tables and Division

WORKED EXAMPLE

$$4 \times 6 = \underline{24}$$

55. Multiplication

Work out each product.

- | | | | |
|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 $5 \times 3 = \underline{\quad}$ | 2 $7 \times 2 = \underline{\quad}$ | 3 $5 \times 5 = \underline{\quad}$ | 4 $4 \times 3 = \underline{\quad}$ |
| 5 $5 \times 2 = \underline{\quad}$ | 6 $10 \times 1 = \underline{\quad}$ | 7 $10 \times 3 = \underline{\quad}$ | 8 $1 \times 3 = \underline{\quad}$ |
| 9 $7 \times 1 = \underline{\quad}$ | 10 $1 \times 5 = \underline{\quad}$ | 11 $4 \times 8 = \underline{\quad}$ | 12 $3 \times 1 = \underline{\quad}$ |

56. Division

Work out each quotient.

- | | | | |
|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 13 $8 \div 2 = \underline{\quad}$ | 14 $8 \div 1 = \underline{\quad}$ | 15 $16 \div 2 = \underline{\quad}$ | 16 $3 \div 3 = \underline{\quad}$ |
| 17 $6 \div 3 = \underline{\quad}$ | 18 $12 \div 2 = \underline{\quad}$ | 19 $16 \div 8 = \underline{\quad}$ | 20 $15 \div 3 = \underline{\quad}$ |
| 21 $2 \div 1 = \underline{\quad}$ | 22 $10 \div 1 = \underline{\quad}$ | 23 $32 \div 8 = \underline{\quad}$ | 24 $12 \div 4 = \underline{\quad}$ |

57. Word problems: mixed

Read each problem. Write the answer.

- 25 First Lucia prepared 29 bread rolls, and then 16 more.

How many bread rolls does Lucia have altogether?

- 26 Between them, Farah has 19 water bottles and Suki has 14.

How many water bottles do they have altogether?

- 27 Marian had 19 croissants, packed away some, and kept 8 croissants.

How many croissants did Marian pack away?

- 28 Ravi has 20 water bottles while Courtney has 13 water bottles.

Between the two of them, how many water bottles are there?

Answer Key (1 of 8)

Rounding to 10 and 100

Rounding numbers

1. $337 \approx 340$
2. $749 \approx 750$
3. $979 \approx 980$
4. $67 \approx 70$
5. $962 \approx 960$
6. $694 \approx 690$
7. $293 \approx 290$
8. $585 \approx 590$
9. $758 \approx 760$
10. $169 \approx 170$
11. $562 \approx 560$
12. $888 \approx 890$
13. $357 \approx 360$
14. $447 \approx 450$
15. $816 \approx 820$
16. $857 \approx 860$
17. $679 \approx 680$
18. $441 \approx 440$
19. $872 \approx 870$
20. $593 \approx 590$
21. $104 \approx 100$
22. $771 \approx 770$
23. $232 \approx 230$
24. $716 \approx 720$

Equal Groups: the 2 Times Table

The 2 times table

1. $1 \times 2 = 2$
2. $2 \times 2 = 4$
3. $5 \times 2 = 10$
4. $3 \times 2 = 6$
5. $4 \times 2 = 8$
6. $7 \times 2 = 14$
7. $10 \times 2 = 20$
8. $6 \times 2 = 12$
9. $9 \times 2 = 18$
10. $8 \times 2 = 16$

Missing factors: the 2 times table

11. $2 \times 2 = 4$
12. $4 \times 2 = 8$
13. $7 \times 2 = 14$
14. $1 \times 2 = 2$
15. $3 \times 2 = 6$

Equal Groups: the 2 Times Table (continued)

Missing factors: the 2 times table (continued)

16. $5 \times 2 = 10$
17. $8 \times 2 = 16$
18. $6 \times 2 = 12$

Word problems: multiplying

19. $2 \times 2 = 4$ notebooks

The 5 and 10 Times Tables

The 5 times table

1. $2 \times 5 = 10$
2. $4 \times 5 = 20$
3. $7 \times 5 = 35$
4. $1 \times 5 = 5$
5. $3 \times 5 = 15$
6. $5 \times 5 = 25$
7. $8 \times 5 = 40$

The 10 times table

8. $4 \times 10 = 40$
9. $2 \times 10 = 20$
10. $7 \times 10 = 70$
11. $3 \times 10 = 30$
12. $1 \times 10 = 10$
13. $5 \times 10 = 50$
14. $9 \times 10 = 90$
15. $6 \times 10 = 60$
16. $10 \times 10 = 100$
17. $8 \times 10 = 80$

Word problems: multiplying

18. $4 \times 2 = 8$ carrots
19. $3 \times 2 = 6$ bread rolls

The 3 and 4 Times Tables

The 3 times table

1. $2 \times 3 = 6$
2. $1 \times 3 = 3$
3. $7 \times 3 = 21$
4. $3 \times 3 = 9$
5. $4 \times 3 = 12$
6. $6 \times 3 = 18$
7. $9 \times 3 = 27$
8. $5 \times 3 = 15$
9. $8 \times 3 = 24$
10. $10 \times 3 = 30$

Answer Key (2 of 8)

The 3 and 4 Times Tables (continued)

The 4 times table

11. $2 \times 4 = 8$
12. $4 \times 4 = 16$
13. $5 \times 4 = 20$
14. $1 \times 4 = 4$
15. $3 \times 4 = 12$
16. $6 \times 4 = 24$
17. $10 \times 4 = 40$
18. $7 \times 4 = 28$
19. $8 \times 4 = 32$
20. $9 \times 4 = 36$

Word problems: multiplying

21. $2 \times 4 = 8$ notebooks
22. $3 \times 2 = 6$ folders

The 6 and 7 Times Tables

The 6 times table

1. $2 \times 6 = 12$
2. $3 \times 6 = 18$
3. $5 \times 6 = 30$
4. $4 \times 6 = 24$
5. $1 \times 6 = 6$
6. $7 \times 6 = 42$
7. $9 \times 6 = 54$
8. $6 \times 6 = 36$
9. $10 \times 6 = 60$
10. $8 \times 6 = 48$

The 7 times table

11. $3 \times 7 = 21$
12. $2 \times 7 = 14$
13. $7 \times 7 = 49$
14. $1 \times 7 = 7$
15. $4 \times 7 = 28$
16. $5 \times 7 = 35$
17. $9 \times 7 = 63$
18. $6 \times 7 = 42$
19. $10 \times 7 = 70$
20. $8 \times 7 = 56$

Missing factors: the 7 times table

21. $4 \times 7 = 28$
22. $1 \times 7 = 7$
23. $7 \times 7 = 49$
24. $3 \times 7 = 21$

The 6 and 7 Times Tables (continued)

Missing factors: the 7 times table (continued)

25. $2 \times 7 = 14$

Rounding numbers

26. $141 \approx 140$
27. $914 \approx 910$
28. $546 \approx 550$
29. $361 \approx 360$
30. $585 \approx 590$
31. $878 \approx 880$
32. $87 \approx 90$
33. $233 \approx 230$
34. $253 \approx 250$
35. $286 \approx 290$

The 8 and 9 Times Tables

The 8 times table

1. $3 \times 8 = 24$
2. $2 \times 8 = 16$
3. $5 \times 8 = 40$
4. $1 \times 8 = 8$
5. $4 \times 8 = 32$
6. $7 \times 8 = 56$
7. $9 \times 8 = 72$
8. $6 \times 8 = 48$
9. $10 \times 8 = 80$
10. $8 \times 8 = 64$

The 9 times table

11. $2 \times 9 = 18$
12. $3 \times 9 = 27$
13. $7 \times 9 = 63$
14. $1 \times 9 = 9$
15. $4 \times 9 = 36$
16. $6 \times 9 = 54$
17. $10 \times 9 = 90$
18. $5 \times 9 = 45$
19. $9 \times 9 = 81$
20. $8 \times 9 = 72$

Word problems: multiplying

21. $3 \times 4 = 12$ notebooks
22. $3 \times 4 = 12$ treats

Mixed Times Tables

Multiplication

1. $3 \times 2 = 6$

Answer Key (3 of 8)

Mixed Times Tables (continued)

Multiplication (continued)

2. $5 \times 3 = 15$
3. $10 \times 2 = 20$
4. $2 \times 3 = 6$
5. $2 \times 4 = 8$
6. $4 \times 3 = 12$
7. $5 \times 6 = 30$
8. $2 \times 6 = 12$
9. $3 \times 5 = 15$
10. $6 \times 1 = 6$
11. $4 \times 7 = 28$
12. $4 \times 1 = 4$
13. $2 \times 1 = 2$
14. $2 \times 8 = 16$
15. $2 \times 5 = 10$
16. $8 \times 1 = 8$
17. $1 \times 7 = 7$
18. $6 \times 6 = 36$
19. $1 \times 2 = 2$
20. $1 \times 1 = 1$
21. $2 \times 9 = 18$
22. $9 \times 1 = 9$
23. $2 \times 7 = 14$
24. $1 \times 10 = 10$

Word problems: multiplying

25. $3 \times 5 = 15$ cookies
26. $2 \times 5 = 10$ cupcakes
27. $5 \times 5 = 25$ treats
28. $3 \times 5 = 15$ folders

Dividing by 2, 5 and 10

Dividing by 2

1. $2 \div 2 = 1$
2. $6 \div 2 = 3$
3. $12 \div 2 = 6$
4. $8 \div 2 = 4$
5. $4 \div 2 = 2$
6. $14 \div 2 = 7$
7. $20 \div 2 = 10$
8. $10 \div 2 = 5$

Dividing by 5

9. $10 \div 5 = 2$
10. $5 \div 5 = 1$
11. $25 \div 5 = 5$

Dividing by 2, 5 and 10 (continued)

Dividing by 5 (continued)

12. $15 \div 5 = 3$
13. $20 \div 5 = 4$
14. $30 \div 5 = 6$
15. $40 \div 5 = 8$
16. $35 \div 5 = 7$
17. $45 \div 5 = 9$
18. $50 \div 5 = 10$

Dividing by 10

19. $30 \div 10 = 3$
20. $20 \div 10 = 2$
21. $50 \div 10 = 5$
22. $40 \div 10 = 4$
23. $10 \div 10 = 1$
24. $70 \div 10 = 7$
25. $80 \div 10 = 8$
26. $60 \div 10 = 6$
27. $90 \div 10 = 9$
28. $100 \div 10 = 10$

Word problems: dividing

29. $24 \div 6 = 4$ shelves
30. $24 \div 6 = 4$ boxes
31. $18 \div 3 = 6$ cookies

Dividing by 3, 4 and 6

Dividing by 3

1. $3 \div 3 = 1$
2. $6 \div 3 = 2$
3. $21 \div 3 = 7$
4. $12 \div 3 = 4$
5. $9 \div 3 = 3$
6. $18 \div 3 = 6$
7. $27 \div 3 = 9$
8. $15 \div 3 = 5$
9. $30 \div 3 = 10$
10. $24 \div 3 = 8$

Dividing by 4

11. $4 \div 4 = 1$
12. $8 \div 4 = 2$
13. $20 \div 4 = 5$
14. $16 \div 4 = 4$
15. $12 \div 4 = 3$
16. $28 \div 4 = 7$

Answer Key (4 of 8)

Dividing by 3, 4 and 6 (continued)

Dividing by 4 (continued)

17. $40 \div 4 = 10$
18. $24 \div 4 = 6$
19. $36 \div 4 = 9$
20. $32 \div 4 = 8$

Dividing by 6

21. $24 \div 6 = 4$
22. $6 \div 6 = 1$
23. $36 \div 6 = 6$
24. $12 \div 6 = 2$
25. $18 \div 6 = 3$
26. $30 \div 6 = 5$
27. $54 \div 6 = 9$
28. $42 \div 6 = 7$
29. $48 \div 6 = 8$
30. $60 \div 6 = 10$

Word problems: dividing

31. $10 \div 5 = 2$ croissants

Dividing by 7, 8 and 9

Dividing by 7

1. $21 \div 7 = 3$
2. $7 \div 7 = 1$
3. $35 \div 7 = 5$
4. $14 \div 7 = 2$
5. $28 \div 7 = 4$
6. $42 \div 7 = 6$
7. $70 \div 7 = 10$
8. $49 \div 7 = 7$
9. $63 \div 7 = 9$
10. $56 \div 7 = 8$

Dividing by 8

11. $16 \div 8 = 2$
12. $8 \div 8 = 1$
13. $48 \div 8 = 6$
14. $24 \div 8 = 3$
15. $32 \div 8 = 4$
16. $40 \div 8 = 5$
17. $80 \div 8 = 10$
18. $56 \div 8 = 7$
19. $72 \div 8 = 9$
20. $64 \div 8 = 8$

Dividing by 7, 8 and 9 (continued)

Dividing by 9

21. $27 \div 9 = 3$
22. $9 \div 9 = 1$
23. $54 \div 9 = 6$
24. $18 \div 9 = 2$
25. $36 \div 9 = 4$
26. $63 \div 9 = 7$
27. $90 \div 9 = 10$
28. $45 \div 9 = 5$
29. $72 \div 9 = 8$
30. $81 \div 9 = 9$

Word problems: dividing

31. $24 \div 8 = 3$ trays
32. $8 \div 2 = 4$ books
33. $10 \div 2 = 5$ boxes

Word Problems: Multiplication

Word problems: multiplying

1. $3 \times 3 = 9$ food pellets
2. $2 \times 6 = 12$ notebooks
3. $2 \times 9 = 18$ carrots
4. $4 \times 2 = 8$ cupcakes
5. $2 \times 5 = 10$ water bottles
6. $2 \times 6 = 12$ cookies

Dividing by 2

7. $6 \div 2 = 3$
8. $8 \div 2 = 4$
9. $12 \div 2 = 6$
10. $2 \div 2 = 1$
11. $4 \div 2 = 2$
12. $14 \div 2 = 7$

Word Problems: Division

Word problems: dividing

1. $12 \div 3 = 4$ croissants
2. $4 \div 2 = 2$ water bottles
3. $40 \div 8 = 5$ trays
4. $21 \div 7 = 3$ rows
5. $14 \div 7 = 2$ rows
6. $24 \div 8 = 3$ shelves

Rounding numbers

7. $227 \approx 230$
8. $546 \approx 550$
9. $669 \approx 670$

Answer Key (5 of 8)

Word Problems: Division (continued)

Rounding numbers (continued)

10. $293 \approx 290$
11. $72 \approx 70$
12. $502 \approx 500$

Equal Parts

Name the fraction

1. $\frac{1}{4}$
2. $\frac{2}{4}$
3. $\frac{4}{5}$
4. $\frac{1}{3}$
5. $\frac{3}{4}$
6. $\frac{2}{3}$
7. $\frac{3}{5}$
8. $\frac{2}{3}$
9. $\frac{3}{4}$
10. $\frac{2}{4}$
11. $\frac{1}{6}$
12. $\frac{2}{4}$

Dividing by 7

13. $28 \div 7 = 4$
14. $21 \div 7 = 3$
15. $42 \div 7 = 6$
16. $7 \div 7 = 1$
17. $14 \div 7 = 2$
18. $49 \div 7 = 7$
19. $56 \div 7 = 8$
20. $35 \div 7 = 5$
21. $70 \div 7 = 10$
22. $63 \div 7 = 9$

Comparing Fractions

Comparing fractions

1. $\frac{1}{8} < \frac{3}{4}$
2. $\frac{4}{6} < \frac{4}{5}$
3. $\frac{1}{2} > \frac{2}{5}$
4. $\frac{4}{7} > \frac{3}{7}$
5. $\frac{7}{8} > \frac{1}{2}$
6. $\frac{2}{7} < \frac{3}{4}$
7. $\frac{5}{8} > \frac{2}{8}$
8. $\frac{6}{8} > \frac{1}{6}$
9. $\frac{1}{7} < \frac{1}{4}$
10. $\frac{3}{7} < \frac{4}{6}$
11. $\frac{5}{7} > \frac{4}{7}$

Comparing Fractions (continued)

Comparing fractions (continued)

12. $\frac{1}{2} > \frac{1}{8}$
13. $\frac{2}{6} < \frac{5}{8}$
14. $\frac{2}{7} < \frac{5}{6}$
15. $\frac{4}{8} > \frac{2}{8}$
16. $\frac{2}{8} < \frac{2}{6}$

Rounding numbers

17. $713 \approx 710$
18. $14 \approx 10$
19. $831 \approx 830$
20. $617 \approx 620$
21. $694 \approx 690$
22. $111 \approx 110$
23. $449 \approx 450$
24. $877 \approx 880$
25. $302 \approx 300$
26. $666 \approx 670$

Number Patterns

Number patterns

1. 1, 9, 17, [25], 33
2. 6, 16, [26], 36, 46
3. 3, 13, [23], 33, 43
4. 8, [14], 20, 26, 32
5. 3, [6], 9, 12, 15
6. 8, 12, [16], 20, 24
7. 6, 11, 16, [21], 26
8. 8, 18, [28], 38, 48
9. 4, 8, [12], 16, 20
10. 3, 14, [25], 36, 47
11. 2, 6, 10, [14], 18
12. 3, 7, 11, [15], 19
13. 5, [12], 19, 26, 33
14. 3, 15, 27, [39], 51
15. 1, 8, [15], 22, 29
16. 9, [20], 31, 42, 53
17. 9, 12, 15, [18], 21
18. 4, 13, [22], 31, 40
19. 5, 13, [21], 29, 37
20. 8, 10, 12, [14], 16
21. 7, 15, 23, [31], 39
22. 8, 17, [26], 35, 44
23. 1, 4, 7, [10], 13
24. 3, 7, [11], 15, 19

Answer Key (6 of 8)

Number Patterns (continued)

Number patterns (continued)

25. 1, 3, 5, [7], 9
26. 2, [7], 12, 17, 22
27. 9, [15], 21, 27, 33
28. 6, 17, 28, [39], 50
29. 1, [6], 11, 16, 21
30. 6, [10], 14, 18, 22
31. 7, 10, [13], 16, 19
32. 4, [14], 24, 34, 44
33. 2, [8], 14, 20, 26
34. 9, 14, [19], 24, 29
35. 9, 20, 31, [42], 53
36. 2, [6], 10, 14, 18
37. 9, [17], 25, 33, 41
38. 4, 15, [26], 37, 48
39. 7, 11, [15], 19, 23
40. 3, [10], 17, 24, 31
41. 4, [9], 14, 19, 24
42. 5, 7, [9], 11, 13
43. 4, [13], 22, 31, 40
44. 7, [9], 11, 13, 15
45. 9, 21, 33, [45], 57
46. 2, 12, [22], 32, 42
47. 3, 6, [9], 12, 15
48. 7, 16, [25], 34, 43
49. 5, 9, 13, [17], 21
50. 6, [18], 30, 42, 54

Dividing by 7

51. $7 \div 7 = 1$
52. $14 \div 7 = 2$
53. $35 \div 7 = 5$
54. $28 \div 7 = 4$
55. $21 \div 7 = 3$
56. $42 \div 7 = 6$
57. $63 \div 7 = 9$
58. $49 \div 7 = 7$
59. $70 \div 7 = 10$
60. $56 \div 7 = 8$

True, False or Fix It

Reasoning puzzles

1. ■ = 13, ● = 8
2. ● = 8, ♦ = 6

True, False or Fix It (continued)

Reasoning puzzles (continued)

3. 7, 24, 9, 36 → 7 (the other three are all multiples of 3)
4. $11 - 4 = 7$, not 13 (each column took the smaller digit from the larger)
5. $26 + 34 = 60$, not 59 (the answer is one out)
6. $32 + 36 = 68$, not 67 (the answer is one out)
7. 40, 30, 22, 10 → 22 (the other three are all multiples of 10)

Telling the Time

Elapsed time

1. 3:30 → 3:45 = 15 min
2. 12:30 → 12:50 = 20 min
3. 12:10 → 1:05 = 55 min
4. 10:10 → 10:35 = 25 min
5. 4:15 → 4:35 = 20 min
6. 12:05 → 12:50 = 45 min
7. 1:50 → 2:45 = 55 min
8. 9:55 → 10:10 = 15 min
9. 8:05 → 8:40 = 35 min
10. 2:55 → 3:05 = 10 min
11. 2:10 → 3:10 = 60 min
12. 10:05 → 10:55 = 50 min
13. 4:40 → 4:55 = 15 min
14. 8:00 → 9:05 = 65 min
15. 11:15 → 11:45 = 30 min
16. 11:10 → 11:55 = 45 min
17. 12:45 → 1:05 = 20 min
18. 1:55 → 2:55 = 60 min
19. 8:20 → 8:35 = 15 min
20. 4:00 → 4:30 = 30 min
21. 2:30 → 3:20 = 50 min
22. 2:10 → 2:40 = 30 min
23. 12:00 → 12:25 = 25 min
24. 7:00 → 7:25 = 25 min
25. 1:20 → 2:15 = 55 min
26. 12:10 → 12:35 = 25 min

Comparing fractions

27. $\frac{4}{7} > \frac{1}{6}$
28. $\frac{6}{7} > \frac{4}{6}$
29. $\frac{4}{6} < \frac{4}{5}$
30. $\frac{2}{5} > \frac{1}{5}$
31. $\frac{4}{6} < \frac{3}{4}$

Answer Key (7 of 8)

Telling the Time (continued)

Comparing fractions (continued)

32. $\frac{4}{8} > \frac{1}{6}$
33. $\frac{5}{6} > \frac{2}{5}$
34. $\frac{4}{5} > \frac{5}{7}$
35. $\frac{2}{7} < \frac{4}{7}$
36. $\frac{3}{6} < \frac{4}{6}$

Naming Shapes

Name the shape

1. hexagon — from hexagon, rectangle, square
2. square — from hexagon, rectangle, square
3. hexagon — from hexagon, octagon, rectangle
4. hexagon — from hexagon, octagon, triangle
5. octagon — from octagon, pentagon, triangle
6. pentagon — from pentagon, rectangle, triangle
7. square — from hexagon, pentagon, square
8. pentagon — from pentagon, rectangle, square

Number patterns

9. 2, 9, [16], 23, 30
10. 9, [14], 19, 24, 29
11. 6, 16, [26], 36, 46
12. 2, 9, 16, [23], 30
13. 8, 10, [12], 14, 16
14. 5, 16, [27], 38, 49
15. 8, 16, 24, [32], 40
16. 7, [12], 17, 22, 27

Area by Counting Squares

Area by counting squares

1. 3×4 less 2×2 : 8 squares
2. 6×4 less 4×2 : 16 squares
3. 6×4 less 3×1 : 21 squares
4. 6×6 less 5×5 : 11 squares
5. 4×8 less 2×6 : 20 squares
6. 5×6 less 4×4 : 14 squares
7. 5×6 less 3×2 : 24 squares
8. 7×4 less 4×2 : 20 squares
9. 4×4 less 2×3 : 10 squares
10. 6×3 less 1×1 : 17 squares

Rounding numbers

11. $172 \approx 170$
12. $501 \approx 500$
13. $268 \approx 270$
14. $909 \approx 910$

Area by Counting Squares (continued)

Rounding numbers (continued)

15. $694 \approx 690$
16. $878 \approx 880$
17. $877 \approx 880$
18. $257 \approx 260$
19. $723 \approx 720$
20. $931 \approx 930$

Perimeter

Perimeter

1. parallelogram $19 + 11 + 19 + 11$: 60 cm
2. trapezoid $2 + 8 + 14 + 8$: 32 cm
3. trapezoid $5 + 13 + 9 + 13$: 40 cm
4. trapezoid $3 + 5 + 5 + 5$: 18 cm
5. triangle $11 + 14 + 14$: 39 cm
6. triangle $14 + 14 + 18$: 46 cm
7. trapezoid $3 + 15 + 11 + 15$: 44 cm
8. trapezoid $2 + 11 + 8 + 11$: 32 cm
9. rectangle $13 + 5 + 13 + 5$: 36 cm
10. triangle $8 + 14 + 17$: 39 cm
11. trapezoid $8 + 16 + 9 + 16$: 49 cm
12. triangle $14 + 18 + 19$: 51 cm

Elapsed time

13. $6:05 \rightarrow 6:25 = 20$ min
14. $2:00 \rightarrow 2:55 = 55$ min
15. $1:40 \rightarrow 2:20 = 40$ min
16. $3:15 \rightarrow 3:30 = 15$ min
17. $5:05 \rightarrow 5:15 = 10$ min
18. $4:35 \rightarrow 4:55 = 20$ min
19. $10:30 \rightarrow 11:20 = 50$ min
20. $3:05 \rightarrow 3:45 = 40$ min
21. $6:30 \rightarrow 6:35 = 5$ min
22. $1:10 \rightarrow 1:50 = 40$ min

Bar Graphs and Line Plots

Bar graphs

1. $6 + 8 = 14$, $14 - 2 = 12$
2. $2 + 6 = 8$, $8 - 7 = 1$
3. $2 + 8 = 10$, $10 - 6 = 4$

Line plots

4. longer than 3 inches — 13 worms
5. longer than 4 inches — 11 worms
6. longer than 5 inches — 7 worms

Answer Key (8 of 8)

Picture Graphs

Picture graphs

1. Bea is $9 - 1 = 8$ fewer than Ali
2. Ali is $9 - 5 = 4$ more than Caz
3. Dev is $9 - 7 = 2$ fewer than Ali
4. $9 + 10 = 19$, $19 - 8 = 11$
5. $8 + 10 = 18$, $18 - 9 = 9$
6. $8 + 9 = 17$, $17 - 10 = 7$

Dividing by 7

7. $14 \div 7 = 2$
8. $7 \div 7 = 1$
9. $49 \div 7 = 7$
10. $21 \div 7 = 3$
11. $28 \div 7 = 4$
12. $42 \div 7 = 6$

Review: Times Tables and Division

Multiplication

1. $5 \times 3 = 15$
2. $7 \times 2 = 14$
3. $5 \times 5 = 25$
4. $4 \times 3 = 12$
5. $5 \times 2 = 10$
6. $10 \times 1 = 10$
7. $10 \times 3 = 30$
8. $1 \times 3 = 3$
9. $7 \times 1 = 7$
10. $1 \times 5 = 5$
11. $4 \times 8 = 32$
12. $3 \times 1 = 3$

Division

13. $8 \div 2 = 4$
14. $8 \div 1 = 8$
15. $16 \div 2 = 8$
16. $3 \div 3 = 1$
17. $6 \div 3 = 2$
18. $12 \div 2 = 6$
19. $16 \div 8 = 2$
20. $15 \div 3 = 5$
21. $2 \div 1 = 2$
22. $10 \div 1 = 10$
23. $32 \div 8 = 4$
24. $12 \div 4 = 3$

Review: Times Tables and Division (continued)

Word problems: mixed

25. $29 + 16 = 45$ bread rolls
26. $19 + 14 = 33$ water bottles
27. $19 - 8 = 11$ croissants
28. $20 + 13 = 33$ water bottles

Solutions (1 of 13)

Rounding to 10 and 100

Rounding numbers

1. **337** $\approx$ _____

3 3 7
337 $\rightarrow$ **340**

Find the tens digit first — that is the one that might change.

Now look at the single digit just after it: 7. Nothing further along matters at all.

7 is 5 or more, so 337 is nearer 340 than 330. It rounds up.

So 337 to the nearest ten is 340.

2. **749** $\approx$ _____

7 4 9
749 $\rightarrow$ **750**

Find the tens digit first — that is the one that might change.

Now look at the single digit just after it: 9. Nothing further along matters at all.

9 is 5 or more, so 749 is nearer 750 than 740. It rounds up.

So 749 to the nearest ten is 750.

Solutions (2 of 13)

Equal Groups: the 2 Times Table

Word problems: multiplying

19. Jordan filled 2 crates with 2 notebooks in each. Jordan has 5 tickets as well.

How many notebooks does Jordan have in all? ____

asked:

How many notebooks does Jordan have
in all?

$$2 \times 2 = 4$$

4 notebooks

Read it through once and do NOTHING. Grabbing the numbers on the first read means choosing an operation before you know the story, and that choice is the only hard part of a word problem.

Now the numbers: 2 and 2. Finding them is not the same as knowing what to do with them — that comes next, and it comes from the story rather than from the numbers.

Equal groups, and you are told how many groups and how big each one is — that is a multiplication, and adding the two numbers is the mistake the story is set up to catch. So this one is a multiplication: 2×2 .

$2 \times 2 = 4$ notebooks. And answer the question that was ASKED — "How many notebooks does Jordan have in all?" — in notebooks, because the sum on its own is not yet an answer.

Equal Parts

Name the fraction

1. = ____

pieces in all: 4

shaded: 1

$\frac{1}{4}$

Count the BOTTOM number first, and count every piece — shaded and unshaded together. It is how many the whole was cut into: 4.

Only now count the shaded ones: 1. The number NOT shaded (3) is also sitting there in the picture, and writing that underneath is the usual mistake.

Shaded over total: $\frac{1}{4}$.

Solutions (3 of 13)

Equal Parts (continued)

Name the fraction (continued)

2. = —

pieces in all: 4

shaded: 2

$$\frac{2}{4}$$

Count the BOTTOM number first, and count every piece — shaded and unshaded together. It is how many the whole was cut into: 4.

Only now count the shaded ones: 2. The number NOT shaded (2) is also sitting there in the picture, and writing that underneath is the usual mistake.

Shaded over total: $\frac{2}{4}$.

Comparing Fractions

Comparing fractions

1. $\frac{1}{8} \bigcirc \frac{3}{4}$

$$\frac{1}{8} \quad ? \quad \frac{3}{4}$$

$$\frac{3}{4} = \frac{6}{8}$$

$$\frac{1}{8} < \frac{6}{8}$$

$$\frac{1}{8} < \frac{3}{4}$$

Eighths and quarters are different SIZES of piece, so the two top numbers cannot be compared as they stand. A bigger number on the bottom means a smaller piece — which is the part of this that feels backwards.

Eighths will hold both, and only one of them has to move: $\frac{3}{4}$ is $\frac{6}{8}$. It has not changed in size — it is just being counted in smaller pieces.

Same size of piece, so now it is only counting: 1 against 6. $\frac{1}{8}$ is less than $\frac{3}{4}$: $\frac{1}{8} < \frac{3}{4}$.

Solutions (4 of 13)

Comparing Fractions (continued)

Comparing fractions (continued)

2. $\frac{4}{6} \bigcirc \frac{4}{5}$

$$\begin{array}{rcl} \frac{4}{6} & ? & \frac{4}{5} \\ \frac{4}{6} & = & \frac{20}{30} \\ \frac{4}{5} & = & \frac{24}{30} \\ \frac{20}{30} & < & \frac{24}{30} \\ \frac{4}{6} & < & \frac{4}{5} \end{array}$$

Sixths and fifths are different SIZES of piece, so the two top numbers cannot be compared as they stand. A bigger number on the bottom means a smaller piece — which is the part of this that feels backwards.

Cut both into 30ths: $\frac{4}{6}$ is $\frac{20}{30}$, and $\frac{4}{5}$ is $\frac{24}{30}$. Neither has changed in size — they are just being measured in the same piece now.

Same size of piece, so now it is only counting: 20 against 24. $\frac{4}{6}$ is less than $\frac{4}{5}$: $\frac{4}{6} < \frac{4}{5}$.

Number Patterns

Number patterns

1. 1, 9, 17, ____, 33

1 9 17 25 33

Find the rule first, from two numbers you can actually see — never from the gap.

1 to 9 is + 8. One pair is a guess, though — check it against another.

$9 + 8 = 17$, so the rule holds. Two pairs agreeing is what turns a guess into the rule.

Now apply it to the gap: $17 + 8 = 25$.

Check it against the number already after the gap: $25 + 8 = 33$, which is what is there. The missing number is 25.

Solutions (5 of 13)

Number Patterns (continued)

Number patterns (continued)

2. 6, 16, ____, 36, 46

6 16 26 36 46

Find the rule first, from two numbers you can actually see — never from the gap.

6 to 16 is + 10. One pair is a guess, though — check it against another.

$36 + 10 = 46$, so the rule holds. Two pairs agreeing is what turns a guess into the rule.

Now apply it to the gap: $16 + 10 = 26$.

Check it against the number already after the gap: $26 + 10 = 36$, which is what is there. The missing number is 26.

True, False or Fix It

Reasoning puzzles

1. ■ + ■ = 26 and ■ + ● = 21. What is ●? ____

Why?

$$26 \div 2 = 13$$

$$21 - 13 = 8$$

Two unknown symbols and two facts. Do not start where the question points — start where there is only ONE thing you do not know, because that is the only place an answer can come from.

The first fact has the same symbol twice and nothing else, so it is that symbol doubled: half of 26 is 13.

Now the next fact has only one unknown left in it — it is 21 take away the 13: $21 - 13 = 8$.

Solutions (6 of 13)

True, False or Fix It (continued)

Reasoning puzzles (continued)

2. $\bullet + \bullet = 16$ and $\bullet + \blacklozenge = 14$. What is $\blacklozenge$? ____

Why?

$$\begin{array}{rclcl} 16 & \div & 2 & = & 8 \\ 14 & - & 8 & = & 6 \end{array}$$

Two unknown symbols and two facts. Do not start where the question points — start where there is only ONE thing you do not know, because that is the only place an answer can come from.

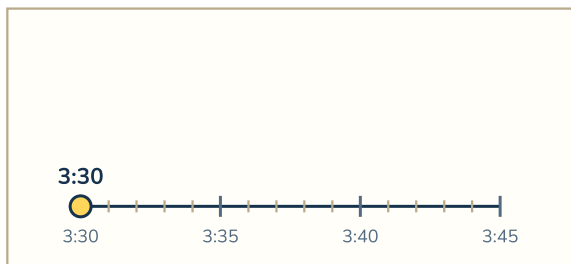
The first fact has the same symbol twice and nothing else, so it is that symbol doubled: half of 16 is 8.

Now the next fact has only one unknown left in it — it is 14 take away the 8: $14 - 8 = 6$.

Telling the Time

Elapsed time

1. $3:30 \rightarrow 3:45 =$ ____ min

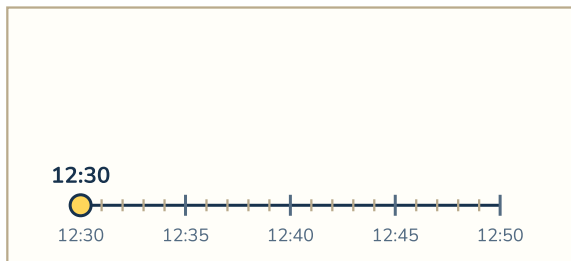


From 3:30 to 3:45. Count FORWARDS rather than taking one from the other — then nothing has to be borrowed and the hour never bites.

It all sits inside the one hour, so there is nothing to cross: 15 minutes straight through to 3:45.

Add the hops up: 15 — that is 15 minutes.

2. $12:30 \rightarrow 12:50 =$ ____ min



From 12:30 to 12:50. Count FORWARDS rather than taking one from the other — then nothing has to be borrowed and the hour never bites.

It all sits inside the one hour, so there is nothing to cross: 20 minutes straight through to 12:50.

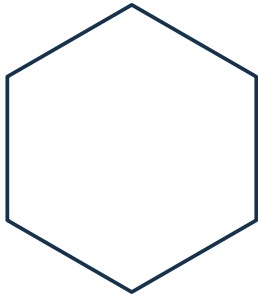
Add the hops up: 20 — that is 20 minutes.

Solutions (7 of 13)

Naming Shapes

Name the shape

1.



hexagon

rectangle

square

sides: 6

hexagon

Count the sides first — that is what almost every shape name is built from, and it is one number rather than a picture to recognize.

6 sides makes it a hexagon.

So it is a hexagon.

2.



hexagon

rectangle

square

square is also
a rectangle (four right
angles)

Count the sides first — that is what almost every shape name is built from, and it is one number rather than a picture to recognize.

4 sides makes it a quadrilateral — and that is where naming gets more careful, because the four-sided shapes have families inside families.

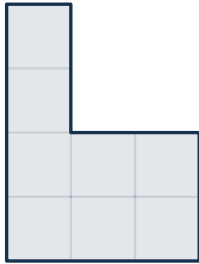
This one is a square — and it is ALSO a rectangle (four right angles), and a rhombus (four equal sides), and a parallelogram. Being one does not stop it being the others; the question wants the most exact name that fits.

Solutions (8 of 13)

Area by Counting Squares

Area by counting squares

1.



— squares

$$\text{first way: } 12 - 4 = 8$$

$$\text{strip: } 3 \times 2 = 6$$

$$\text{upright: } 1 \times 2 = 2$$

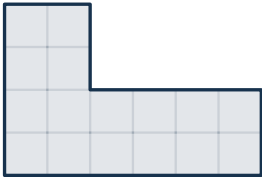
$$6 + 2 = \mathbf{8 \text{ squares}}$$

There is no single row that runs all the way across this one, so counting rows does not work as it stands. Cut it into pieces that ARE rectangles — and there is more than one way.

First way: count the whole rectangle it would be — $3 \times 4 = 12$ — then take off the bite, $2 \times 2 = 4$. That leaves 8.

Second way: two rectangles. The strip underneath is $3 \times 2 = 6$, the part standing on it is $1 \times 2 = 2$, and $6 + 2 = 8$. Two ways agreeing is how you know a count is right.

2.



— squares

$$\text{first way: } 24 - 8 = 16$$

$$\text{strip: } 6 \times 2 = 12$$

$$\text{upright: } 2 \times 2 = 4$$

$$12 + 4 = \mathbf{16 \text{ squares}}$$

There is no single row that runs all the way across this one, so counting rows does not work as it stands. Cut it into pieces that ARE rectangles — and there is more than one way.

First way: count the whole rectangle it would be — $6 \times 4 = 24$ — then take off the bite, $4 \times 2 = 8$. That leaves 16.

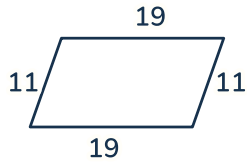
Second way: two rectangles. The strip underneath is $6 \times 2 = 12$, the part standing on it is $2 \times 2 = 4$, and $12 + 4 = 16$. Two ways agreeing is how you know a count is right.

Solutions (9 of 13)

Perimeter

Perimeter

1.



— cm

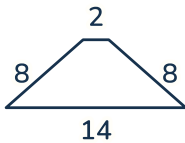
$$\begin{array}{l} \text{sides: } 19 \quad 11 \quad 19 \quad 11 \\ 19 + 11 + 19 + 11 = \\ \mathbf{60 \text{ cm}} \end{array}$$

Perimeter is the distance round the OUTSIDE — the length of the fence, not the size of the field. That is the whole difference between this and area, and it is where the usual wrong answer comes from.

So there is nothing to work out — just walk round the edge and add: $19 + 11 + 19 + 11$.

$19 + 11 + 19 + 11 = 60 \text{ cm}$. Note the unit: cm, not square cm — a fence is a length, and a length never gets squared.

2.



— cm

$$\begin{array}{l} \text{sides: } 2 \quad 8 \quad 14 \quad 8 \\ 2 + 8 + 14 + 8 = \\ \mathbf{32 \text{ cm}} \end{array}$$

Perimeter is the distance round the OUTSIDE — the length of the fence, not the size of the field. That is the whole difference between this and area, and it is where the usual wrong answer comes from.

So there is nothing to work out — just walk round the edge and add: $2 + 8 + 14 + 8$.

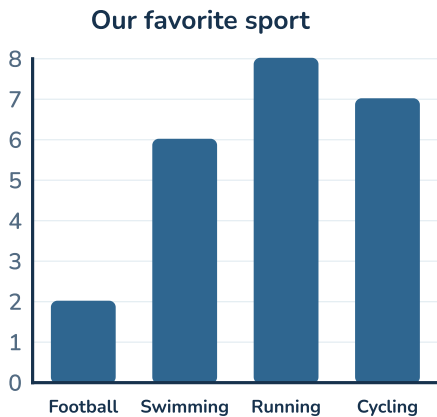
$2 + 8 + 14 + 8 = 32 \text{ cm}$. Note the unit: cm, not square cm — a fence is a length, and a length never gets squared.

Solutions (10 of 13)

Bar Graphs and Line Plots

Bar graphs

1.



How many more chose swimming and running than chose football?

—

Football: 2 up → 2 votes

Swimming: 6 up → 6 votes

Running: 8 up → 8 votes

Cycling: 7 up → 7 votes

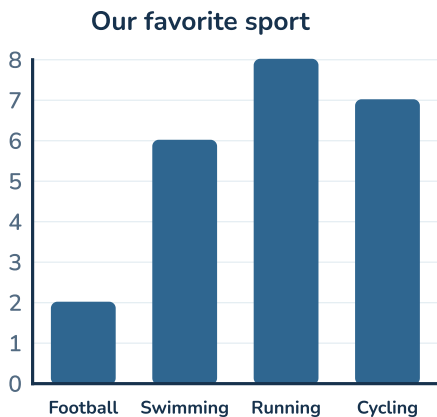
12 votes

Check the key first, every time. Here one square is one vote, so counting is enough — but that is a fact to check, not to assume.

So the counts read straight off: Football 2, Swimming 6, Running 8, Cycling 7.

Now the question, on the NUMBERS rather than the marks: $6 + 8 = 14$, $14 - 2 = 12$. So the answer is 12 votes.

2.



How many more chose football and swimming than chose cycling?

—

Football: 2 up → 2 votes

Swimming: 6 up → 6 votes

Running: 8 up → 8 votes

Cycling: 7 up → 7 votes

1 votes

Check the key first, every time. Here one square is one vote, so counting is enough — but that is a fact to check, not to assume.

So the counts read straight off: Football 2, Swimming 6, Running 8, Cycling 7.

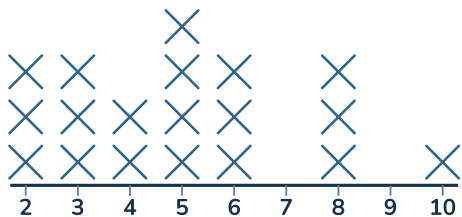
Now the question, on the NUMBERS rather than the marks: $2 + 6 = 8$, $8 - 7 = 1$. So the answer is 1 votes.

Solutions (11 of 13)

Bar Graphs and Line Plots (continued)

Line plots

4. Length of worms we found (inches)



How many worms were longer than 3 inches?

—

2 inches: 3 worms
3 inches: 3 worms
4 inches: 2 worms
5 inches: 4 worms
6 inches: 3 worms
8 inches: 3 worms
10 inches: 1 worms

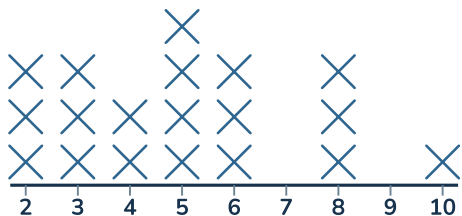
13

A line plot is not bars to read off a scale — each mark is one worm. So the number **ALONG** the bottom and the number of marks **ABOVE** it are two different quantities, and the question wants one of them.

Counting the stacks: 3 at 2, 3 at 3, 2 at 4, 4 at 5, 3 at 6, 3 at 8, 1 at 10.

longer than 3 inches — 13 worms — so the answer is 13.

5. Length of worms we found (inches)



How many worms were longer than 4 inches?

—

2 inches: 3 worms
3 inches: 3 worms
4 inches: 2 worms
5 inches: 4 worms
6 inches: 3 worms
8 inches: 3 worms
10 inches: 1 worms

11

A line plot is not bars to read off a scale — each mark is one worm. So the number **ALONG** the bottom and the number of marks **ABOVE** it are two different quantities, and the question wants one of them.

Counting the stacks: 3 at 2, 3 at 3, 2 at 4, 4 at 5, 3 at 6, 3 at 8, 1 at 10.

longer than 4 inches — 11 worms — so the answer is 11.

Solutions (12 of 13)

Picture Graphs

Picture graphs



Each ● stands for 1.

How many fewer for Bea than for Ali?

—

Ali: 9 drawn → 9 books

Bea: 1 drawn → 1 books

Caz: 5 drawn → 5 books

Dev: 7 drawn → 7 books

8 books

Check the key first, every time. Here one picture is one book, so counting is enough — but that is a fact to check, not to assume.

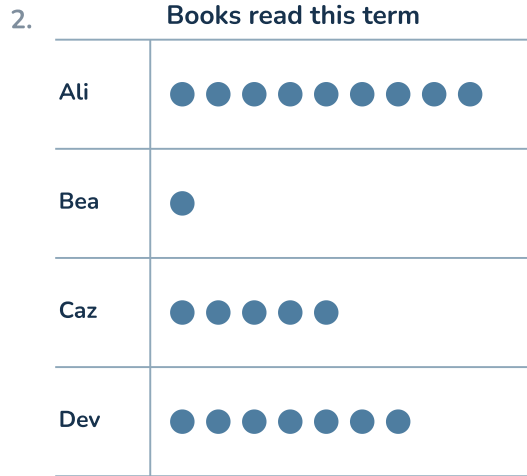
So the counts read straight off: Ali 9, Bea 1, Caz 5, Dev 7.

Now the question, on the NUMBERS rather than the marks: Bea is $9 - 1 = 8$ fewer than Ali. So the answer is 8 books.

Solutions (13 of 13)

Picture Graphs (continued)

Picture graphs (continued)



Each ● stands for 1.

How many more for Ali than for Caz?

—

Ali: 9 drawn → 9 books

Bea: 1 drawn → 1 books

Caz: 5 drawn → 5 books

Dev: 7 drawn → 7 books

4 books

Check the key first, every time. Here one picture is one book, so counting is enough — but that is a fact to check, not to assume.

So the counts read straight off: Ali 9, Bea 1, Caz 5, Dev 7.

Now the question, on the NUMBERS rather than the marks: Ali is $9 - 5 = 4$ more than Caz. So the answer is 4 books.