Grade 2 Foundation Workbook

19 lessons · printable · answer key at the back

Name _____ Date _____

Contents

1-1

Adding within 20

WORKED EXAMPLE $4 + 4 = 8$

1. Addition

Work out each sum.

1 $0 + 4 =$ ___
2 $3 + 2 =$ ___
3 $14 + 2 =$ ___
4 $8 + 0 =$ ___
5 $0 + 9 =$ ___
6 $1 + 13 =$ ___
7 $13 + 2 =$ ___
8 $5 + 2 =$ ___
9 $10 + 0 =$ ___
10 $11 + 0 =$ ___
11 $9 + 3 =$ ___
12 $13 + 1 =$ ___
13 $10 + 4 =$ ___
14 $12 + 4 =$ ___
15 $1 + 6 =$ ___
16 $0 + 10 =$ ___
17 $1 + 7 =$ ___
18 $1 + 9 =$ ___
19 $11 + 3 =$ ___
20 $1 + 4 =$ ___
21 $11 + 6 =$ ___
22 $2 + 2 =$ ___
23 $0 + 7 =$ ___
24 $2 + 5 =$ ___
25 $10 + 6 =$ ___
26 $2 + 6 =$ ___
27 $0 + 2 =$ ___
28 $8 + 3 =$ ___
29 $12 + 1 =$ ___

2. Word problems: adding

Read each problem. Write the answer.

30 Zoe had 10 pencils before buying 2 more at the library.

How many pencils does Zoe have now?

_____

31 First Nina bought 9 pencils, and then 2 more.

How many pencils does Nina have altogether?

_____

32 First Nina collected 9 pencils, and then 8 more.

How many pencils does Nina have altogether?

_____

Subtracting within 20

WORKED EXAMPLE

$17 - 5 = 12$

3. Subtraction

Work out each difference.

1 $9 - 4 =$ ___
2 $3 - 1 =$ ___
3 $15 - 3 =$ ___
4 $3 - 0 =$ ___
5 $14 - 4 =$ ___
6 $1 - 0 =$ ___
7 $17 - 11 =$ ___
8 $12 - 12 =$ ___
9 $2 - 1 =$ ___
10 $4 - 3 =$ ___
11 $16 - 10 =$ ___
12 $13 - 11 =$ ___
13 $6 - 1 =$ ___
14 $13 - 8 =$ ___
15 $5 - 0 =$ ___
16 $9 - 1 =$ ___
17 $8 - 3 =$ ___
18 $15 - 13 =$ ___
19 $6 - 6 =$ ___
20 $9 - 7 =$ ___
21 $16 - 11 =$ ___
22 $8 - 1 =$ ___
23 $9 - 9 =$ ___
24 $9 - 5 =$ ___
25 $16 - 3 =$ ___
26 $14 - 2 =$ ___
27 $14 - 10 =$ ___
28 $12 - 3 =$ ___
29 $12 - 10 =$ ___
30 $5 - 4 =$ ___
31 $4 - 1 =$ ___
32 $17 - 15 =$ ___
33 $8 - 4 =$ ___

4. Word problems: subtracting

Read each problem. Write the answer.

34 Starting with 7 apples, Zoe ate some and kept 5 apples.

How many apples did Zoe eat?

_____

35 Out of 12 pencils, Max gave away 2.

How many pencils does Max have left?

_____

36 Maya counted 6 apples at first, and ended up with 10 apples.

How many apples did Maya buy?

_____

Adding within 50

WORKED EXAMPLE

27 + 11 = 38

5. Addition

Work out each sum.

1	12 + 16 = ___	2	3 + 3 = ___	3	31 + 7 = ___	4	1 + 16 = ___
5	13 + 13 = ___	6	21 + 6 = ___	7	33 + 5 = ___	8	3 + 6 = ___
9	1 + 15 = ___	10	6 + 15 = ___	11	3 + 31 = ___	12	3 + 7 = ___
13	18 + 4 = ___	14	26 + 11 = ___	15	18 + 0 = ___	16	7 + 10 = ___
17	10 + 15 = ___	18	13 + 21 = ___	19	14 + 11 = ___	20	11 + 17 = ___
21	3 + 33 = ___	22	12 + 10 = ___	23	2 + 17 = ___	24	10 + 1 = ___
25	31 + 10 = ___	26	4 + 20 = ___	27	20 + 0 = ___	28	40 + 1 = ___

6. Word problems: adding

Read each problem. Write the answer.

29 Between them, Ava has 7 apples and Leo has 3.

How many apples do they have altogether?

_____

30 Ava has 7 cookies and Maya has 6.

How many cookies do they have altogether?

_____

31 Maya has 19 pencils. Zoe has 18.

How many pencils do they have in all?

_____

Subtracting within 50

WORKED EXAMPLE

12 − 8 = 4

7. Subtraction

Work out each difference.

1	21 − 1 = ___	2	6 − 4 = ___	3	38 − 17 = ___	4	29 − 24 = ___
5	9 − 6 = ___	6	25 − 22 = ___	7	31 − 9 = ___	8	28 − 15 = ___
9	15 − 11 = ___	10	26 − 5 = ___	11	42 − 1 = ___	12	31 − 11 = ___
13	28 − 0 = ___	14	44 − 32 = ___	15	28 − 27 = ___	16	32 − 12 = ___
17	24 − 10 = ___	18	34 − 12 = ___	19	18 − 11 = ___	20	22 − 9 = ___
21	34 − 16 = ___	22	22 − 8 = ___	23	5 − 1 = ___	24	22 − 4 = ___
25	36 − 21 = ___	26	12 − 0 = ___	27	9 − 1 = ___	28	30 − 4 = ___

8. Word problems: subtracting

Read each problem. Write the answer.

29 Ava had 18 apples and bought some more to reach 23 apples.

How many apples did Ava buy?

_____

30 Leo had only 9 pencils yesterday, but now has 12 pencils.

How many pencils did Leo get?

_____

31 Between Zoe and Maya there are 17 apples, and 11 of them belong to Zoe.

How many apples belong to Maya?

_____

Adding within 100

WORKED EXAMPLE

$31 + 4 = 35$

9. Addition

Work out each sum.

1 $21 + 30 =$ ___
2 $22 + 22 =$ ___
3 $4 + 58 =$ ___
4 $45 + 4 =$ ___
5 $28 + 20 =$ ___
6 $62 + 0 =$ ___
7 $68 + 11 =$ ___
8 $1 + 34 =$ ___
9 $3 + 2 =$ ___
10 $28 + 14 =$ ___
11 $50 + 31 =$ ___
12 $1 + 14 =$ ___
13 $5 + 43 =$ ___
14 $21 + 51 =$ ___
15 $17 + 18 =$ ___
16 $32 + 17 =$ ___
17 $34 + 2 =$ ___
18 $30 + 48 =$ ___
19 $40 + 23 =$ ___
20 $13 + 1 =$ ___
21 $26 + 50 =$ ___
22 $7 + 29 =$ ___

10. Missing numbers: adding

Write the missing number in each one.

23 $3 +$ ___ $= 21$
24 $26 +$ ___ $= 59$
25 ___ $+ 59 = 89$
26 $9 +$ ___ $= 42$
27 ___ $+ 21 = 54$
28 ___ $+ 61 = 63$
29 $30 +$ ___ $= 77$
30 ___ $+ 31 = 47$
31 ___ $+ 13 = 48$
32 ___ $+ 5 = 36$
33 ___ $+ 4 = 51$
34 ___ $+ 5 = 32$
35 ___ $+ 21 = 28$

11. Word problems: adding

Read each problem. Write the answer.

36 Leo had 14 cookies before being given 6 more at the park.

How many cookies does Leo have now?

_____

37 Maya already had 18 cookies and was given 13 more.

How many cookies does Maya have in all?

_____

38 Max has 10 cookies, and Leo has 4 more than Max.

How many cookies does Leo have?

_____

Subtracting within 100

WORKED EXAMPLE

64 − 33 = 31

12. Subtraction

Work out each difference.

1 43 − 13 = ___	2 44 − 37 = ___	3 86 − 80 = ___	4 66 − 60 = ___
5 64 − 14 = ___	6 40 − 9 = ___	7 86 − 33 = ___	8 27 − 6 = ___
9 59 − 15 = ___	10 47 − 27 = ___	11 88 − 21 = ___	12 45 − 30 = ___
13 48 − 38 = ___	14 51 − 6 = ___	15 40 − 13 = ___	16 43 − 16 = ___
17 27 − 16 = ___	18 73 − 23 = ___	19 23 − 21 = ___	20 41 − 20 = ___
21 87 − 5 = ___	22 42 − 41 = ___	23 59 − 34 = ___	24 15 − 4 = ___
25 50 − 33 = ___	26 49 − 7 = ___	27 16 − 9 = ___	28 75 − 45 = ___

13. Word problems: subtracting

Read each problem. Write the answer.

29 Ava has 9 pencils. Leo has only 8.

How many more pencils does Ava have than Leo?

_____

30 Max set out with 14 cookies and ended up giving away 12 of them.

How many cookies are left now?

_____

Hundreds, Tens and Ones

WORKED EXAMPLE

900 + 90 + 1 → 991

14. Reading expanded form

Write the number each expanded form makes.

1 100 + 80 + 5 → ____

2 700 + 30 + 9 → ____

3 300 + 40 + 5 → ____

4 200 + 20 + 3 → ____

5 700 + 1 → ____

6 200 + 40 + 2 → ____

7 400 + 10 + 6 → ____

8 800 + 40 → ____

9 300 + 40 + 8 → ____

10 900 + 80 + 9 → ____

11 900 + 20 → ____

12 600 + 40 + 1 → ____

13 600 + 8 → ____

14 600 + 30 + 6 → ____

15 100 + 40 + 4 → ____

16 100 + 70 + 1 → ____

17 800 + 80 + 6 → ____

18 100 + 40 + 8 → ____

19 100 + 90 + 1 → ____

20 100 + 6 → ____

21 500 + 30 + 9 → ____

22 700 + 50 + 8 → ____

23 500 + 90 + 4 → ____

24 900 + 50 → ____

15. Subtraction

Work out each difference.

25 18 − 9 = ___

26 15 − 12 = ___

27 25 − 6 = ___

28 20 − 1 = ___

29 26 − 2 = ___

30 14 − 14 = ___

31 42 − 30 = ___

32 31 − 1 = ___

33 32 − 1 = ___

34 22 − 6 = ___

Column Addition

WORKED EXAMPLE

$$\begin{array}{r} {\scriptstyle 1} \\ 720 \\ +\ 327 \\ \hline 1047 \end{array}$$

16. Add and subtract multi-digit numbers

Add. Work down the columns.

1. $241 + 109$
2. $231 + 224$
3. $748 + 488$
4. $108 + 248$
5. $106 + 261$
6. $712 + 165$
7. $637 + 621$
8. $620 + 254$
9. $562 + 151$
10. $121 + 465$
11. $475 + 715$
12. $296 + 505$
13. $688 + 230$
14. $745 + 405$
15. $188 + 492$
16. $148 + 513$
17. $330 + 301$
18. $986 + 120$
19. $137 + 182$
20. $278 + 631$
21. $413 + 810$
22. $447 + 128$
23. $206 + 281$

17. Addition

Work out each sum.

24 $0 + 42 =$ ___

25 $5 + 23 =$ ___

26 $48 + 5 =$ ___

27 $0 + 63 =$ ___

28 $18 + 24 =$ ___

29 $0 + 10 =$ ___

30 $63 + 23 =$ ___

31 $17 + 23 =$ ___

32 $7 + 26 =$ ___

33 $12 + 14 =$ ___

2-3

Column Subtraction

WORKED EXAMPLE

$$\begin{array}{r} {\scriptstyle 4\ 11} \\ 2\cancel{5}\cancel{1} \\ -\ 144 \\ \hline 107 \end{array}$$

18. Add and subtract multi-digit numbers

Subtract. Work down the columns.

1 $\begin{array}{r} 480 \\ -\ 236 \\ \hline \end{array}$	2 $\begin{array}{r} 588 \\ -\ 174 \\ \hline \end{array}$	3 $\begin{array}{r} 827 \\ -\ 566 \\ \hline \end{array}$	4 $\begin{array}{r} 591 \\ -\ 588 \\ \hline \end{array}$	5 $\begin{array}{r} 510 \\ -\ 505 \\ \hline \end{array}$	6 $\begin{array}{r} 603 \\ -\ 155 \\ \hline \end{array}$
7 $\begin{array}{r} 736 \\ -\ 392 \\ \hline \end{array}$	8 $\begin{array}{r} 454 \\ -\ 191 \\ \hline \end{array}$	9 $\begin{array}{r} 624 \\ -\ 224 \\ \hline \end{array}$	10 $\begin{array}{r} 383 \\ -\ 373 \\ \hline \end{array}$	11 $\begin{array}{r} 679 \\ -\ 262 \\ \hline \end{array}$	12 $\begin{array}{r} 621 \\ -\ 138 \\ \hline \end{array}$
13 $\begin{array}{r} 293 \\ -\ 138 \\ \hline \end{array}$	14 $\begin{array}{r} 717 \\ -\ 203 \\ \hline \end{array}$	15 $\begin{array}{r} 546 \\ -\ 142 \\ \hline \end{array}$	16 $\begin{array}{r} 603 \\ -\ 129 \\ \hline \end{array}$	17 $\begin{array}{r} 607 \\ -\ 173 \\ \hline \end{array}$	18 $\begin{array}{r} 688 \\ -\ 585 \\ \hline \end{array}$
19 $\begin{array}{r} 253 \\ -\ 196 \\ \hline \end{array}$	20 $\begin{array}{r} 482 \\ -\ 250 \\ \hline \end{array}$	21 $\begin{array}{r} 742 \\ -\ 210 \\ \hline \end{array}$	22 $\begin{array}{r} 460 \\ -\ 148 \\ \hline \end{array}$	23 $\begin{array}{r} 474 \\ -\ 300 \\ \hline \end{array}$	24 $\begin{array}{r} 166 \\ -\ 109 \\ \hline \end{array}$

19. Subtraction

Work out each difference.

25 $34 - 19 =$ ___	26 $28 - 17 =$ ___	27 $77 - 70 =$ ___	28 $30 - 15 =$ ___
29 $59 - 52 =$ ___	30 $39 - 14 =$ ___	31 $85 - 40 =$ ___	32 $61 - 11 =$ ___
33 $66 - 20 =$ ___	34 $64 - 21 =$ ___		

Number Patterns

WORKED EXAMPLE

2, 8 , 14, 20, 26

20. Number patterns

Find the missing number in each pattern.

1. 1, ___, 17, 25, 33
2. 4, 9, 14, ___, 24
3. 8, 15, ___, 29, 36
4. 6, ___, 24, 33, 42
5. 5, 14, ___, 32, 41
6. 1, 10, ___, 28, 37
7. 2, 7, ___, 17, 22
8. 6, 16, ___, 36, 46
9. 5, 8, 11, ___, 17
10. 7, 17, ___, 37, 47
11. 3, 13, ___, 33, 43
12. 4, 10, 16, ___, 28
13. 5, 9, ___, 17, 21
14. 6, 9, 12, ___, 18
15. 4, ___, 18, 25, 32
16. 1, 8, ___, 22, 29
17. 7, ___, 21, 28, 35
18. 9, ___, 23, 30, 37
19. 8, 17, ___, 35, 44
20. 5, 11, 17, ___, 29
21. 8, 15, 22, ___, 36
22. 9, 11, ___, 15, 17
23. 9, 16, 23, ___, 37
24. 6, ___, 10, 12, 14
25. 1, 3, 5, ___, 9
26. 5, 15, 25, ___, 45
27. 8, 17, 26, ___, 44
28. 1, 12, 23, ___, 45
29. 8, ___, 30, 41, 52
30. 8, 20, ___, 44, 56
31. 6, 9, ___, 15, 18
32. 1, 7, 13, ___, 25
33. 5, 11, ___, 23, 29
34. 8, 13, 18, ___, 28
35. 1, 5, ___, 13, 17
36. 2, 5, ___, 11, 14
37. 7, 10, 13, ___, 19
38. 1, ___, 5, 7, 9
39. 1, 13, ___, 37, 49
40. 3, 11, ___, 27, 35
41. 2, 8, 14, ___, 26
42. 7, 16, 25, ___, 43
43. 1, 6, 11, ___, 21
44. 4, 14, 24, ___, 44
45. 3, 9, 15, ___, 27
46. 4, ___, 14, 19, 24
47. 8, ___, 28, 38, 48
48. 2, ___, 22, 32, 42
49. 4, 6, 8, ___, 12
50. 9, 17, 25, ___, 41

21. Reading expanded form

Write the number each expanded form makes.

51. 400 + 70 + 4 → _____
52. 600 + 40 + 2 → _____
53. 100 + 80 + 9 → _____
54. 400 + 30 + 7 → _____
55. 500 + 9 → _____
56. 300 + 80 + 9 → _____
57. 100 + 40 + 7 → _____
58. 900 + 20 + 5 → _____
59. 600 + 80 + 3 → _____
60. 700 + 10 + 7 → _____

True, False or Fix It

WORKED EXAMPLE

The sum of two even numbers is even.

always | sometimes | never

Why? ANSWER: There is no counter-example — it holds every time.

22. Reasoning puzzles

Read each question and write what you work out.

1 **Priya wrote 13 + 52 = 66. Write the correct answer.**

_____

Why? .....

2 **Mia wrote 47 + 26 = 63. Write the correct answer.**

_____

Why? .....

3 **Which number is the odd one out?**

51 | 8 | 27 | 18

Why? .....

4 **Which number is the odd one out?**

7 | 54 | 39 | 46

Why? .....

5 **■ + ■ = 26 and ■ + ● = 21. What is ●?**

_____

Why? .....

6 **Which number is the odd one out?**

5 | 57 | 53 | 45

Why? .....

7 **Which number is the odd one out?**

10 | 19 | 15 | 30

Why? .....

Telling the Time

WORKED EXAMPLE

5:45 → 6:45 = 60 min

23. Elapsed time

Write how many minutes pass between the two times.

1 2:20 → 2:50 = ___ min

2 4:25 → 4:45 = ___ min

3 1:20 → 2:10 = ___ min

4 5:30 → 5:40 = ___ min

5 7:45 → 8:00 = ___ min

6 7:30 → 7:55 = ___ min

7 3:20 → 4:15 = ___ min

8 1:55 → 2:10 = ___ min

9 6:05 → 6:15 = ___ min

10 3:50 → 4:10 = ___ min

11 6:35 → 7:00 = ___ min

12 8:00 → 8:25 = ___ min

13 7:05 → 7:55 = ___ min

14 11:35 → 12:15 = ___ min

15 4:35 → 4:45 = ___ min

16 1:10 → 1:45 = ___ min

17 12:10 → 12:45 = ___ min

18 10:30 → 11:10 = ___ min

19 10:10 → 10:55 = ___ min

20 9:00 → 9:50 = ___ min

21 8:15 → 9:05 = ___ min

22 8:20 → 8:25 = ___ min

23 10:05 → 10:50 = ___ min

24 12:00 → 12:30 = ___ min

25 1:15 → 2:00 = ___ min

26 2:55 → 3:10 = ___ min

24. Add and subtract multi-digit numbers

Subtract. Work down the columns.

27 $559 - 495$

28 $411 - 387$

29 $811 - 113$

30 $409 - 201$

31 $601 - 478$

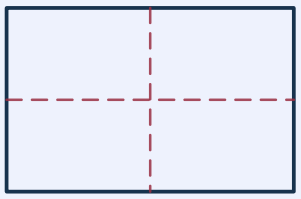
32 $479 - 308$

33 $773 - 110$

34 $456 - 129$

Naming Shapes

WORKED EXAMPLE

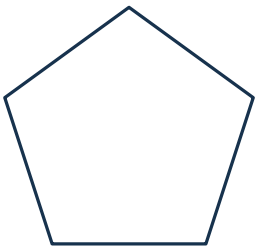


rectangle square triangle

25. Name the shape

Circle the name of each shape.

1

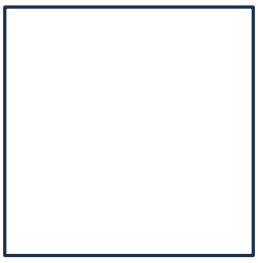


octagon pentagon square

2

hexagon pentagon rectangle

3

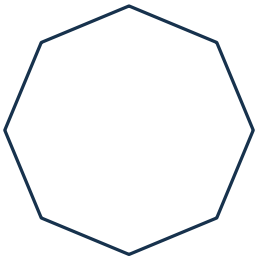


hexagon square triangle

4

hexagon octagon rectangle

5



hexagon octagon square

6

octagon rectangle square

26. Number patterns

Find the missing number in each pattern.

7 5, ___, 15, 20, 25

8 1, 9, 17, ___, 33

9 1, ___, 17, 25, 33

10 2, 9, ___, 23, 30

11 6, ___, 24, 33, 42

12 1, 10, ___, 28, 37

Equal Shares

WORKED EXAMPLE

$= \frac{1}{4}$

27. Name the fraction

Answer each question.

1  = ___

2  = ___

3  = ___

4  = ___

5  = ___

6  = ___

7  = ___

8  = ___

9  = ___

10  = ___

11  = ___

12  = ___

28. Subtraction

Work out each difference.

13 64 − 23 = ___

14 44 − 29 = ___

15 89 − 22 = ___

16 64 − 61 = ___

17 58 − 14 = ___

18 48 − 23 = ___

19 89 − 9 = ___

20 65 − 13 = ___

21 52 − 0 = ___

22 17 − 11 = ___

Picture Graphs and Bar Graphs

WORKED EXAMPLE

Our favorite sport	
Football	●●
Swimming	●
Running	●●●●●●●●●●
Cycling	●●●●

Each ● stands for 1.

How many more chose running than chose football?

8

29. Picture graphs

Read each picture graph and answer the question.

Shells found on the beach

Monday	●●●●●●●●●
Tuesday	●●
Wednesday	●●●●
Thursday	●●●●●

Each ● stands for 1.

1 **Which has the fewest?**

_____

2 **How many altogether?**

____

Stickers in each packet

Stars	●●●●●●●●
Hearts	●●●●●●●
Moons	●●●●
Suns	●

Each ● stands for 1.

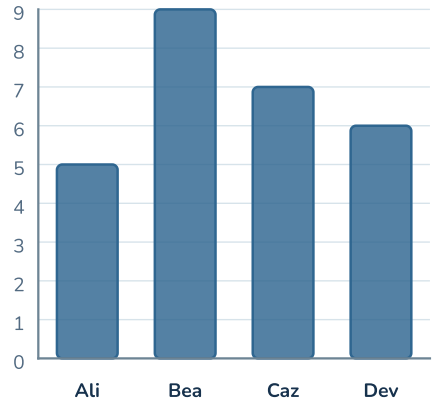
3 **How many fewer hearts than stars?**

____

30. Bar graphs

Read each bar graph and answer the question.

Books read this term



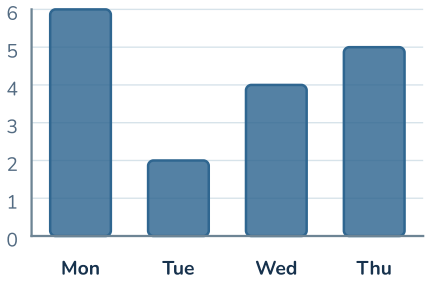
4 **Which has the most?**

_____

5 **Which has the fewest?**

_____

Shells found on the beach



6 **How many fewer on Tuesday than on Monday?**

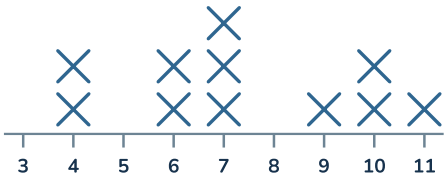
_____

Line Plots

31. Line plots

Read each line plot and answer the question.

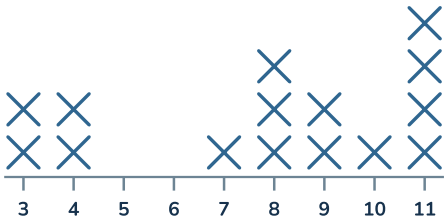
Length of our pencils (inches)



1 How many more pencils measured 7 inches than 4 inches?

___

Height of the bean plants (inches)



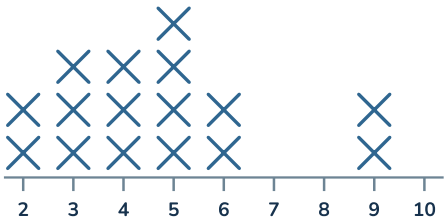
2 How many plants were measured altogether?

___

3 How many plants were longer than 4 inches?

___

Width of the shells (inches)



4 How many more shells measured 3 inches than 9 inches?

___

5 How many more shells measured 4 inches than 2 inches?

___

6 How many more shells measured 4 inches than 6 inches?

___

32. Elapsed time

Write how many minutes pass between the two times.

7 **3:00 → 3:05 = ___ min**

8 **9:30 → 9:55 = ___ min**

9 **10:40 → 11:10 = ___ min**

10 **9:55 → 10:05 = ___ min**

11 **3:20 → 3:40 = ___ min**

12 **6:15 → 6:45 = ___ min**

Word Problems

WORKED EXAMPLE

Maya already had 19 apples and was given 17 more.

How many apples does Maya have in all?

ANSWER: **19 + 17 = 36 apples**

33. Word problems: adding

Read each problem. Write the answer.

1 Ava had 12 stickers near the park and then bought 9 more.

How many stickers does Ava have altogether?

_____

2 First Ava bought 17 stickers, and then 10 more.

How many stickers does Ava have altogether?

_____

3 Ava and Zoe have some cookies. Ava has 10 and Zoe has 9.

How many cookies do the two of them have in total?

_____

4 Maya had 9 apples before being given 4 more at the corner store.

How many apples does Maya have now?

_____

5 Max has 12 cookies while Leo has 4 cookies.

Between the two of them, how many cookies are there?

_____

6 First Zoe was given 20 stickers, and then 10 more.

How many stickers does Zoe have altogether?

_____

34. Reading expanded form

Write the number each expanded form makes.

7 600 + 90 + 9 → _____

8 300 + 90 + 2 → _____

9 600 + 30 + 2 → _____

10 400 + 10 + 5 → _____

11 400 + 1 → _____

12 900 + 50 + 4 → _____

Review: Facts within 20

WORKED EXAMPLE $3 + 7 = 10$

35. Addition

Work out each sum.

1 $0 + 11 =$ ___
2 $4 + 3 =$ ___
3 $7 + 10 =$ ___
4 $5 + 1 =$ ___
5 $2 + 6 =$ ___
6 $0 + 5 =$ ___
7 $12 + 5 =$ ___
8 $0 + 13 =$ ___
9 $12 + 1 =$ ___
10 $3 + 11 =$ ___
11 $5 + 12 =$ ___
12 $6 + 0 =$ ___
13 $0 + 10 =$ ___
14 $0 + 17 =$ ___
15 $1 + 3 =$ ___
16 $0 + 3 =$ ___
17 $3 + 5 =$ ___
18 $6 + 10 =$ ___
19 $4 + 10 =$ ___
20 $13 + 1 =$ ___
21 $8 + 2 =$ ___
22 $11 + 1 =$ ___
23 $5 + 4 =$ ___
24 $1 + 6 =$ ___

36. Subtraction

Work out each difference.

25 $8 - 1 =$ ___
26 $14 - 1 =$ ___
27 $13 - 5 =$ ___
28 $5 - 2 =$ ___
29 $5 - 5 =$ ___
30 $7 - 0 =$ ___
31 $11 - 5 =$ ___
32 $1 - 0 =$ ___
33 $3 - 0 =$ ___
34 $14 - 10 =$ ___
35 $15 - 14 =$ ___
36 $7 - 2 =$ ___
37 $12 - 2 =$ ___
38 $10 - 2 =$ ___
39 $14 - 14 =$ ___
40 $5 - 4 =$ ___
41 $4 - 1 =$ ___
42 $13 - 7 =$ ___
43 $14 - 0 =$ ___
44 $3 - 2 =$ ___
45 $10 - 9 =$ ___
46 $6 - 3 =$ ___
47 $7 - 4 =$ ___
48 $5 - 1 =$ ___

37. Add and subtract multi-digit numbers

Subtract. Work down the columns.

49 $\begin{array}{r} 611 \\ -\,603 \\ \hline \end{array}$
50 $\begin{array}{r} 397 \\ -\,139 \\ \hline \end{array}$
51 $\begin{array}{r} 823 \\ -\,317 \\ \hline \end{array}$
52 $\begin{array}{r} 521 \\ -\,497 \\ \hline \end{array}$
53 $\begin{array}{r} 389 \\ -\,289 \\ \hline \end{array}$
54 $\begin{array}{r} 257 \\ -\,231 \\ \hline \end{array}$

55 $\begin{array}{r} 742 \\ -\,362 \\ \hline \end{array}$
56 $\begin{array}{r} 433 \\ -\,158 \\ \hline \end{array}$

Review: Two-Digit Numbers

WORKED EXAMPLE

44 + 14 = 58

38. Addition

Work out each sum.

1 16 + 10 = ___
2 24 + 22 = ___
3 46 + 33 = ___
4 11 + 55 = ___
5 58 + 0 = ___
6 10 + 48 = ___
7 8 + 53 = ___
8 15 + 18 = ___
9 20 + 39 = ___
10 41 + 2 = ___
11 1 + 90 = ___
12 20 + 9 = ___
13 18 + 31 = ___
14 5 + 84 = ___
15 14 + 15 = ___
16 34 + 31 = ___
17 32 + 7 = ___
18 61 + 6 = ___
19 12 + 28 = ___
20 6 + 11 = ___
21 45 + 9 = ___
22 7 + 52 = ___
23 21 + 7 = ___
24 16 + 28 = ___
25 26 + 39 = ___
26 0 + 30 = ___
27 1 + 3 = ___

39. Subtraction

Work out each difference.

28 48 − 31 = ___
29 38 − 17 = ___
30 50 − 35 = ___
31 33 − 29 = ___
32 34 − 5 = ___
33 53 − 1 = ___
34 83 − 53 = ___
35 56 − 45 = ___
36 57 − 4 = ___
37 30 − 0 = ___
38 58 − 19 = ___
39 56 − 5 = ___
40 41 − 39 = ___
41 60 − 14 = ___
42 24 − 5 = ___
43 44 − 16 = ___
44 43 − 43 = ___
45 77 − 46 = ___
46 17 − 10 = ___
47 37 − 24 = ___
48 51 − 28 = ___
49 39 − 20 = ___
50 37 − 30 = ___
51 32 − 21 = ___
52 65 − 26 = ___
53 55 − 33 = ___
54 37 − 35 = ___

40. Number patterns

Find the missing number in each pattern.

55 6, 14, 22, ___, 38
56 5, 13, 21, ___, 37
57 2, 11, ___, 29, 38
58 5, 8, 11, ___, 17
59 8, 10, ___, 14, 16
60 7, ___, 17, 22, 27
61 8, 18, ___, 38, 48
62 9, 18, 27, ___, 45
63 3, 15, 27, ___, 51
64 1, 8, ___, 22, 29

Answer Key (1 of 9)

Adding within 20

Addition

1. 0 + 4 = 4
2. 3 + 2 = 5
3. 14 + 2 = 16
4. 8 + 0 = 8
5. 0 + 9 = 9
6. 1 + 13 = 14
7. 13 + 2 = 15
8. 5 + 2 = 7
9. 10 + 0 = 10
10. 11 + 0 = 11
11. 9 + 3 = 12
12. 13 + 1 = 14
13. 10 + 4 = 14
14. 12 + 4 = 16
15. 1 + 6 = 7
16. 0 + 10 = 10
17. 1 + 7 = 8
18. 1 + 9 = 10
19. 11 + 3 = 14
20. 1 + 4 = 5
21. 11 + 6 = 17
22. 2 + 2 = 4
23. 0 + 7 = 7
24. 2 + 5 = 7
25. 10 + 6 = 16
26. 2 + 6 = 8
27. 0 + 2 = 2
28. 8 + 3 = 11
29. 12 + 1 = 13

Word problems: adding

30. 10 + 2 = 12 pencils
31. 9 + 2 = 11 pencils
32. 9 + 8 = 17 pencils

Subtracting within 20

Subtraction

1. 9 – 4 = 5
2. 3 – 1 = 2
3. 15 – 3 = 12
4. 3 – 0 = 3
5. 14 – 4 = 10

Subtracting within 20 (continued)

Subtraction (continued)

6. 1 – 0 = 1
7. 17 – 11 = 6
8. 12 – 12 = 0
9. 2 – 1 = 1
10. 4 – 3 = 1
11. 16 – 10 = 6
12. 13 – 11 = 2
13. 6 – 1 = 5
14. 13 – 8 = 5
15. 5 – 0 = 5
16. 9 – 1 = 8
17. 8 – 3 = 5
18. 15 – 13 = 2
19. 6 – 6 = 0
20. 9 – 7 = 2
21. 16 – 11 = 5
22. 8 – 1 = 7
23. 9 – 9 = 0
24. 9 – 5 = 4
25. 16 – 3 = 13
26. 14 – 2 = 12
27. 14 – 10 = 4
28. 12 – 3 = 9
29. 12 – 10 = 2
30. 5 – 4 = 1
31. 4 – 1 = 3
32. 17 – 15 = 2
33. 8 – 4 = 4

Word problems: subtracting

34. 7 – 5 = 2 apples
35. 12 – 2 = 10 pencils
36. 10 – 6 = 4 apples

Adding within 50

Addition

1. 12 + 16 = 28
2. 3 + 3 = 6
3. 31 + 7 = 38
4. 1 + 16 = 17
5. 13 + 13 = 26
6. 21 + 6 = 27

Answer Key (2 of 9)

Adding within 50 (continued)

Addition (continued)

7. 33 + 5 = 38
8. 3 + 6 = 9
9. 1 + 15 = 16
10. 6 + 15 = 21
11. 3 + 31 = 34
12. 3 + 7 = 10
13. 18 + 4 = 22
14. 26 + 11 = 37
15. 18 + 0 = 18
16. 7 + 10 = 17
17. 10 + 15 = 25
18. 13 + 21 = 34
19. 14 + 11 = 25
20. 11 + 17 = 28
21. 3 + 33 = 36
22. 12 + 10 = 22
23. 2 + 17 = 19
24. 10 + 1 = 11
25. 31 + 10 = 41
26. 4 + 20 = 24
27. 20 + 0 = 20
28. 40 + 1 = 41

Word problems: adding

29. 7 + 3 = 10 apples
30. 7 + 6 = 13 cookies
31. 19 + 18 = 37 pencils

Subtracting within 50

Subtraction

1. 21 – 1 = 20
2. 6 – 4 = 2
3. 38 – 17 = 21
4. 29 – 24 = 5
5. 9 – 6 = 3
6. 25 – 22 = 3
7. 31 – 9 = 22
8. 28 – 15 = 13
9. 15 – 11 = 4
10. 26 – 5 = 21
11. 42 – 1 = 41
12. 31 – 11 = 20

Subtracting within 50 (continued)

Subtraction (continued)

13. 28 – 0 = 28
14. 44 – 32 = 12
15. 28 – 27 = 1
16. 32 – 12 = 20
17. 24 – 10 = 14
18. 34 – 12 = 22
19. 18 – 11 = 7
20. 22 – 9 = 13
21. 34 – 16 = 18
22. 22 – 8 = 14
23. 5 – 1 = 4
24. 22 – 4 = 18
25. 36 – 21 = 15
26. 12 – 0 = 12
27. 9 – 1 = 8
28. 30 – 4 = 26

Word problems: subtracting

29. 23 – 18 = 5 apples
30. 12 – 9 = 3 pencils
31. 17 – 11 = 6 apples

Adding within 100

Addition

1. 21 + 30 = 51
2. 22 + 22 = 44
3. 4 + 58 = 62
4. 45 + 4 = 49
5. 28 + 20 = 48
6. 62 + 0 = 62
7. 68 + 11 = 79
8. 1 + 34 = 35
9. 3 + 2 = 5
10. 28 + 14 = 42
11. 50 + 31 = 81
12. 1 + 14 = 15
13. 5 + 43 = 48
14. 21 + 51 = 72
15. 17 + 18 = 35
16. 32 + 17 = 49
17. 34 + 2 = 36
18. 30 + 48 = 78

Answer Key (3 of 9)

Adding within 100 (continued)

Addition (continued)

19. 40 + 23 = 63
20. 13 + 1 = 14
21. 26 + 50 = 76
22. 7 + 29 = 36

Missing numbers: adding

23. 3 + 18 = 21
24. 26 + 33 = 59
25. 30 + 59 = 89
26. 9 + 33 = 42
27. 33 + 21 = 54
28. 2 + 61 = 63
29. 30 + 47 = 77
30. 16 + 31 = 47
31. 35 + 13 = 48
32. 31 + 5 = 36
33. 47 + 4 = 51
34. 27 + 5 = 32
35. 7 + 21 = 28

Word problems: adding

36. 14 + 6 = 20 cookies
37. 18 + 13 = 31 cookies
38. 10 + 4 = 14 cookies

Subtracting within 100

Subtraction

1. 43 – 13 = 30
2. 44 – 37 = 7
3. 86 – 80 = 6
4. 66 – 60 = 6
5. 64 – 14 = 50
6. 40 – 9 = 31
7. 86 – 33 = 53
8. 27 – 6 = 21
9. 59 – 15 = 44
10. 47 – 27 = 20
11. 88 – 21 = 67
12. 45 – 30 = 15
13. 48 – 38 = 10
14. 51 – 6 = 45
15. 40 – 13 = 27
16. 43 – 16 = 27

Subtracting within 100 (continued)

Subtraction (continued)

17. 27 – 16 = 11
18. 73 – 23 = 50
19. 23 – 21 = 2
20. 41 – 20 = 21
21. 87 – 5 = 82
22. 42 – 41 = 1
23. 59 – 34 = 25
24. 15 – 4 = 11
25. 50 – 33 = 17
26. 49 – 7 = 42
27. 16 – 9 = 7
28. 75 – 45 = 30

Word problems: subtracting

29. 9 – 8 = 1 pencil
30. 14 – 12 = 2 cookies

Hundreds, Tens and Ones

Reading expanded form

1. 100 + 80 + 5 = 185
2. 700 + 30 + 9 = 739
3. 300 + 40 + 5 = 345
4. 200 + 20 + 3 = 223
5. 700 + 1 = 701
6. 200 + 40 + 2 = 242
7. 400 + 10 + 6 = 416
8. 800 + 40 = 840
9. 300 + 40 + 8 = 348
10. 900 + 80 + 9 = 989
11. 900 + 20 = 920
12. 600 + 40 + 1 = 641
13. 600 + 8 = 608
14. 600 + 30 + 6 = 636
15. 100 + 40 + 4 = 144
16. 100 + 70 + 1 = 171
17. 800 + 80 + 6 = 886
18. 100 + 40 + 8 = 148
19. 100 + 90 + 1 = 191
20. 100 + 6 = 106
21. 500 + 30 + 9 = 539
22. 700 + 50 + 8 = 758
23. 500 + 90 + 4 = 594

Answer Key (4 of 9)

Hundreds, Tens and Ones (continued)

Reading expanded form (continued)

24. 900 + 50 = 950

Subtraction

25. 18 – 9 = 9
26. 15 – 12 = 3
27. 25 – 6 = 19
28. 20 – 1 = 19
29. 26 – 2 = 24
30. 14 – 14 = 0
31. 42 – 30 = 12
32. 31 – 1 = 30
33. 32 – 1 = 31
34. 22 – 6 = 16

Column Addition

Add and subtract multi-digit numbers

1. 241 + 109 = 350
2. 231 + 224 = 455
3. 748 + 488 = 1236
4. 108 + 248 = 356
5. 106 + 261 = 367
6. 712 + 165 = 877
7. 637 + 621 = 1258
8. 620 + 254 = 874
9. 562 + 151 = 713
10. 121 + 465 = 586
11. 475 + 715 = 1190
12. 296 + 505 = 801
13. 688 + 230 = 918
14. 745 + 405 = 1150
15. 188 + 492 = 680
16. 148 + 513 = 661
17. 330 + 301 = 631
18. 986 + 120 = 1106
19. 137 + 182 = 319
20. 278 + 631 = 909
21. 413 + 810 = 1223
22. 447 + 128 = 575
23. 206 + 281 = 487

Addition

24. 0 + 42 = 42
25. 5 + 23 = 28

Column Addition (continued)

Addition (continued)

26. 48 + 5 = 53
27. 0 + 63 = 63
28. 18 + 24 = 42
29. 0 + 10 = 10
30. 63 + 23 = 86
31. 17 + 23 = 40
32. 7 + 26 = 33
33. 12 + 14 = 26

Column Subtraction

Add and subtract multi-digit numbers

1. 480 – 236 = 244
2. 588 – 174 = 414
3. 827 – 566 = 261
4. 591 – 588 = 3
5. 510 – 505 = 5
6. 603 – 155 = 448
7. 736 – 392 = 344
8. 454 – 191 = 263
9. 624 – 224 = 400
10. 383 – 373 = 10
11. 679 – 262 = 417
12. 621 – 138 = 483
13. 293 – 138 = 155
14. 717 – 203 = 514
15. 546 – 142 = 404
16. 603 – 129 = 474
17. 607 – 173 = 434
18. 688 – 585 = 103
19. 253 – 196 = 57
20. 482 – 250 = 232
21. 742 – 210 = 532
22. 460 – 148 = 312
23. 474 – 300 = 174
24. 166 – 109 = 57

Subtraction

25. 34 – 19 = 15
26. 28 – 17 = 11
27. 77 – 70 = 7
28. 30 – 15 = 15
29. 59 – 52 = 7

Answer Key (5 of 9)

Column Subtraction (continued)

Subtraction (continued)

30. 39 – 14 = 25
31. 85 – 40 = 45
32. 61 – 11 = 50
33. 66 – 20 = 46
34. 64 – 21 = 43

Number Patterns

Number patterns

1. 1, [9], 17, 25, 33
2. 4, 9, 14, [19], 24
3. 8, 15, [22], 29, 36
4. 6, [15], 24, 33, 42
5. 5, 14, [23], 32, 41
6. 1, 10, [19], 28, 37
7. 2, 7, [12], 17, 22
8. 6, 16, [26], 36, 46
9. 5, 8, 11, [14], 17
10. 7, 17, [27], 37, 47
11. 3, 13, [23], 33, 43
12. 4, 10, 16, [22], 28
13. 5, 9, [13], 17, 21
14. 6, 9, 12, [15], 18
15. 4, [11], 18, 25, 32
16. 1, 8, [15], 22, 29
17. 7, [14], 21, 28, 35
18. 9, [16], 23, 30, 37
19. 8, 17, [26], 35, 44
20. 5, 11, 17, [23], 29
21. 8, 15, 22, [29], 36
22. 9, 11, [13], 15, 17
23. 9, 16, 23, [30], 37
24. 6, [8], 10, 12, 14
25. 1, 3, 5, [7], 9
26. 5, 15, 25, [35], 45
27. 8, 17, 26, [35], 44
28. 1, 12, 23, [34], 45
29. 8, [19], 30, 41, 52
30. 8, 20, [32], 44, 56
31. 6, 9, [12], 15, 18
32. 1, 7, 13, [19], 25
33. 5, 11, [17], 23, 29

Number Patterns (continued)

Number patterns (continued)

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

Reading expanded form

51. 400 + 70 + 4 = 474
52. 600 + 40 + 2 = 642
53. 100 + 80 + 9 = 189
54. 400 + 30 + 7 = 437
55. 500 + 9 = 509
56. 300 + 80 + 9 = 389
57. 100 + 40 + 7 = 147
58. 900 + 20 + 5 = 925
59. 600 + 80 + 3 = 683
60. 700 + 10 + 7 = 717

True, False or Fix It

Reasoning puzzles

1. 13 + 52 = 65, not 66 (the answer is one out)
2. 47 + 26 = 73, not 63 (a ten was not carried)
3. 51, 8, 27, 18 → 8 (the other three are all multiples of 3)
4. 7, 54, 39, 46 → 7 (the other three are all two-digit numbers)
5. ■ = 13, ● = 8
6. 5, 57, 53, 45 → 5 (the other three are all two-digit numbers)

Answer Key (6 of 9)

True, False or Fix It (continued)

Reasoning puzzles (continued)

7. 10, 19, 15, 30 → 19 (the other three are all multiples of 5)

Telling the Time

Elapsed time

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

Add and subtract multi-digit numbers

27. 559 – 495 = 64
28. 411 – 387 = 24
29. 811 – 113 = 698
30. 409 – 201 = 208
31. 601 – 478 = 123
32. 479 – 308 = 171
33. 773 – 110 = 663
34. 456 – 129 = 327

Naming Shapes

Name the shape

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

Number patterns

7. 5, [10], 15, 20, 25
8. 1, 9, 17, [25], 33
9. 1, [9], 17, 25, 33
10. 2, 9, [16], 23, 30
11. 6, [15], 24, 33, 42
12. 1, 10, [19], 28, 37

Equal Shares

Name the fraction

1. 1/2
2. 1/3
3. 1/5
4. 2/4
5. 1/4
6. 3/4
7. 3/6
8. 1/3
9. 2/3
10. 2/4
11. 3/5
12. 1/2

Subtraction

13. 64 – 23 = 41
14. 44 – 29 = 15
15. 89 – 22 = 67
16. 64 – 61 = 3
17. 58 – 14 = 44
18. 48 – 23 = 25
19. 89 – 9 = 80
20. 65 – 13 = 52
21. 52 – 0 = 52
22. 17 – 11 = 6

Answer Key (7 of 9)

Picture Graphs and Bar Graphs

Picture graphs

1. Tuesday (2)
2. 9 + 2 + 4 + 5 = 20
3. Hearts is 8 − 7 = 1 fewer than Stars

Bar graphs

4. Bea (9)
5. Ali (5)
6. Tuesday is 6 − 2 = 4 fewer than Monday

Line Plots

Line plots

1. 3 at 7 inches, 2 at 4 inches: 3 − 2 = 1
2. 2 + 2 + 1 + 3 + 2 + 1 + 4 = 15
3. longer than 4 inches — 11 plants
4. 3 at 3 inches, 2 at 9 inches: 3 − 2 = 1
5. 3 at 4 inches, 2 at 2 inches: 3 − 2 = 1
6. 3 at 4 inches, 2 at 6 inches: 3 − 2 = 1

Elapsed time

7. 3:00 → 3:05 = 5 min
8. 9:30 → 9:55 = 25 min
9. 10:40 → 11:10 = 30 min
10. 9:55 → 10:05 = 10 min
11. 3:20 → 3:40 = 20 min
12. 6:15 → 6:45 = 30 min

Word Problems

Word problems: adding

1. 12 + 9 = 21 stickers
2. 17 + 10 = 27 stickers
3. 10 + 9 = 19 cookies
4. 9 + 4 = 13 apples
5. 12 + 4 = 16 cookies
6. 20 + 10 = 30 stickers

Reading expanded form

7. 600 + 90 + 9 = 699
8. 300 + 90 + 2 = 392
9. 600 + 30 + 2 = 632
10. 400 + 10 + 5 = 415
11. 400 + 1 = 401
12. 900 + 50 + 4 = 954

Review: Facts within 20

Addition

1. 0 + 11 = 11
2. 4 + 3 = 7
3. 7 + 10 = 17
4. 5 + 1 = 6
5. 2 + 6 = 8
6. 0 + 5 = 5
7. 12 + 5 = 17
8. 0 + 13 = 13
9. 12 + 1 = 13
10. 3 + 11 = 14
11. 5 + 12 = 17
12. 6 + 0 = 6
13. 0 + 10 = 10
14. 0 + 17 = 17
15. 1 + 3 = 4
16. 0 + 3 = 3
17. 3 + 5 = 8
18. 6 + 10 = 16
19. 4 + 10 = 14
20. 13 + 1 = 14
21. 8 + 2 = 10
22. 11 + 1 = 12
23. 5 + 4 = 9
24. 1 + 6 = 7

Subtraction

25. 8 − 1 = 7
26. 14 − 1 = 13
27. 13 − 5 = 8
28. 5 − 2 = 3
29. 5 − 5 = 0
30. 7 − 0 = 7
31. 11 − 5 = 6
32. 1 − 0 = 1
33. 3 − 0 = 3
34. 14 − 10 = 4
35. 15 − 14 = 1
36. 7 − 2 = 5
37. 12 − 2 = 10
38. 10 − 2 = 8
39. 14 − 14 = 0
40. 5 − 4 = 1

Answer Key (8 of 9)

Review: Facts within 20 (continued)

Subtraction (continued)

41. 4 – 1 = 3
42. 13 – 7 = 6
43. 14 – 0 = 14
44. 3 – 2 = 1
45. 10 – 9 = 1
46. 6 – 3 = 3
47. 7 – 4 = 3
48. 5 – 1 = 4

Add and subtract multi-digit numbers

49. 611 – 603 = 8
50. 397 – 139 = 258
51. 823 – 317 = 506
52. 521 – 497 = 24
53. 389 – 289 = 100
54. 257 – 231 = 26
55. 742 – 362 = 380
56. 433 – 158 = 275

Review: Two-Digit Numbers

Addition

1. 16 + 10 = 26
2. 24 + 22 = 46
3. 46 + 33 = 79
4. 11 + 55 = 66
5. 58 + 0 = 58
6. 10 + 48 = 58
7. 8 + 53 = 61
8. 15 + 18 = 33
9. 20 + 39 = 59
10. 41 + 2 = 43
11. 1 + 90 = 91
12. 20 + 9 = 29
13. 18 + 31 = 49
14. 5 + 84 = 89
15. 14 + 15 = 29
16. 34 + 31 = 65
17. 32 + 7 = 39
18. 61 + 6 = 67
19. 12 + 28 = 40
20. 6 + 11 = 17
21. 45 + 9 = 54

Review: Two-Digit Numbers (continued)

Addition (continued)

22. 7 + 52 = 59
23. 21 + 7 = 28
24. 16 + 28 = 44
25. 26 + 39 = 65
26. 0 + 30 = 30
27. 1 + 3 = 4

Subtraction

28. 48 – 31 = 17
29. 38 – 17 = 21
30. 50 – 35 = 15
31. 33 – 29 = 4
32. 34 – 5 = 29
33. 53 – 1 = 52
34. 83 – 53 = 30
35. 56 – 45 = 11
36. 57 – 4 = 53
37. 30 – 0 = 30
38. 58 – 19 = 39
39. 56 – 5 = 51
40. 41 – 39 = 2
41. 60 – 14 = 46
42. 24 – 5 = 19
43. 44 – 16 = 28
44. 43 – 43 = 0
45. 77 – 46 = 31
46. 17 – 10 = 7
47. 37 – 24 = 13
48. 51 – 28 = 23
49. 39 – 20 = 19
50. 37 – 30 = 7
51. 32 – 21 = 11
52. 65 – 26 = 39
53. 55 – 33 = 22
54. 37 – 35 = 2

Number patterns

55. 6, 14, 22, [30], 38
56. 5, 13, 21, [29], 37
57. 2, 11, [20], 29, 38
58. 5, 8, 11, [14], 17
59. 8, 10, [12], 14, 16

Answer Key (9 of 9)

Review: Two-Digit Numbers (continued)

Number patterns (continued)

60. 7, [12], 17, 22, 27
61. 8, 18, [28], 38, 48
62. 9, 18, 27, [36], 45
63. 3, 15, 27, [39], 51
64. 1, 8, [15], 22, 29

Solutions (1 of 11)

Adding within 20

Word problems: adding

30. Zoe had 10 pencils before buying 2 more at the library.

How many pencils does Zoe have now? ____

asked:

How many pencils does Zoe have now?

10 + 2 = 12

12 pencils

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: 10 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.

Amounts are joining together. So this one is an addition: 10 + 2.

10 + 2 = 12 pencils. And answer the question that was ASKED — "How many pencils does Zoe have now?" — in pencils, because the sum on its own is not yet an answer.

31. First Nina bought 9 pencils, and then 2 more.

How many pencils does Nina have altogether? ____

asked:

How many pencils does Nina have altogether?

9 + 2 = 11

11 pencils

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: 9 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.

Amounts are joining together. So this one is an addition: 9 + 2.

9 + 2 = 11 pencils. And answer the question that was ASKED — "How many pencils does Nina have altogether?" — in pencils, because the sum on its own is not yet an answer.

Solutions (2 of 11)

Hundreds, Tens and Ones

Reading expanded form

1. **100 + 80 + 5 → ____**

100 + 80 + 5 = **185**

This is expanded form run backwards: each piece already says which column it belongs in, so nothing needs working out — only placing.

Put each one in its own column and the number falls out: 185.

2. **700 + 30 + 9 → ____**

700 + 30 + 9 = **739**

This is expanded form run backwards: each piece already says which column it belongs in, so nothing needs working out — only placing.

Put each one in its own column and the number falls out: 739.

Column Addition

Add and subtract multi-digit numbers

1.

```
   1
  2 4 1
+ 1 0 9
-------
  3 5 0
```

241 + 109, written in columns. Start at the RIGHT, with the ones.

1 plus 9 makes 10. That is more than 9, so write 0 in the ones and carry 1 to the left.

Add the carried 1 as well: 1 + 4 + 0 makes 5. Write 5 in the tens.

2 plus 1 makes 3. Write 3 in the hundreds.

That is the whole sum: 241 + 109 = 350.

2.

```
  2 3 1
+ 2 2 4
-------
  4 5 5
```

231 + 224, written in columns. Start at the RIGHT, with the ones.

1 plus 4 makes 5. Write 5 in the ones.

3 plus 2 makes 5. Write 5 in the tens.

2 plus 2 makes 4. Write 4 in the hundreds.

That is the whole sum: 231 + 224 = 455.

Solutions (3 of 11)

Number Patterns

Number patterns

1. **1, ___, 17, 25, 33**

1 **9** **17** 25 33

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

17 to 25 is + 8. One pair is a guess, though — check it against another.

25 + 8 = 33, so the rule holds. Two pairs agreeing is what turns a guess into the rule.

Now apply it to the gap: 1 + 8 = 9.

Check it against the number already after the gap: 9 + 8 = 17, which is what is there. The missing number is 9.

2. **4, 9, 14, ___, 24**

4 9 14 **19** **24**

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

4 to 9 is + 5. One pair is a guess, though — check it against another.

9 + 5 = 14, so the rule holds. Two pairs agreeing is what turns a guess into the rule.

Now apply it to the gap: 14 + 5 = 19.

Check it against the number already after the gap: 19 + 5 = 24, which is what is there. The missing number is 19.

Solutions (4 of 11)

True, False or Fix It

Reasoning puzzles

1. **Priya wrote 13 + 52 = 66. Write the correct answer. ____**

Why?

13 + 52 = **65**

they wrote: **66**

Do not check by reading their working. Somebody else's answer is the most persuasive thing on the page, and rereading it is how you end up agreeing with it — work the sum yourself first, then compare.

On your own: 13 + 52 = 65.

Now compare. They wrote 66, and it should be 65 — out by 1. The correct answer is 65.

2. **Mia wrote 47 + 26 = 63. Write the correct answer. ____**

Why?

47 + 26 = **73**

they wrote: **63**

Do not check by reading their working. Somebody else's answer is the most persuasive thing on the page, and rereading it is how you end up agreeing with it — work the sum yourself first, then compare.

On your own: 47 + 26 = 73.

Now compare. They wrote 63, and it should be 73 — out by 10. The correct answer is 73.

Telling the Time

Elapsed time

1. **2:20 → 2:50 = ____ min**

From 2:20 to 2:50. 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: 30 minutes straight through to 2:50.

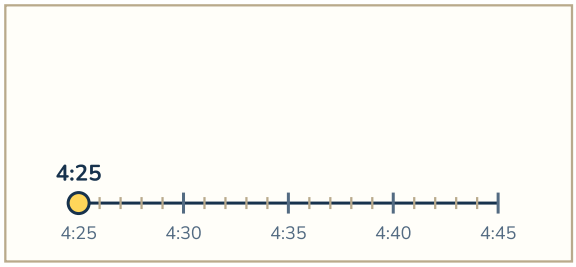
Add the hops up: 30 — that is 30 minutes.

Solutions (5 of 11)

Telling the Time (continued)

Elapsed time (continued)

2. **4:25 → 4:45 = ___ min**



From 4:25 to 4:45. Count FORWARDS rather than taking one from the other — then nothing has to be borrowed and the hour never bites.

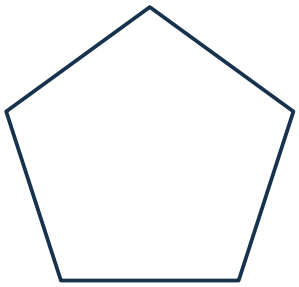
It all sits inside the one hour, so there is nothing to cross: 20 minutes straight through to 4:45.

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

Naming Shapes

Name the shape

1.



octagon | pentagon | square

sides: 5

pentagon

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.

5 sides makes it a pentagon.

So it is a pentagon.

Solutions (6 of 11)

Naming Shapes (continued)

Name the shape (continued)

2.

hexagon | pentagon | rectangle

rectangle is also a parallelogram (both pairs of sides parallel)

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 rectangle — and it is ALSO a parallelogram (both pairs of sides parallel). Being one does not stop it being the others; the question wants the most exact name that fits.

Equal Shares

Name the fraction

1. = —

pieces in all: 2

shaded: 1

$\frac{1}{2}$

Count the BOTTOM number first, and count every piece — shaded and unshaded together. It is how many the whole was cut into: 2.

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

Shaded over total: 1/2.

Solutions (7 of 11)

Equal Shares (continued)

Name the fraction (continued)

2. = —

pieces in all: 3

shaded: 1

$\frac{1}{3}$

Count the BOTTOM number first, and count every piece — shaded and unshaded together. It is how many the whole was cut into: 3.

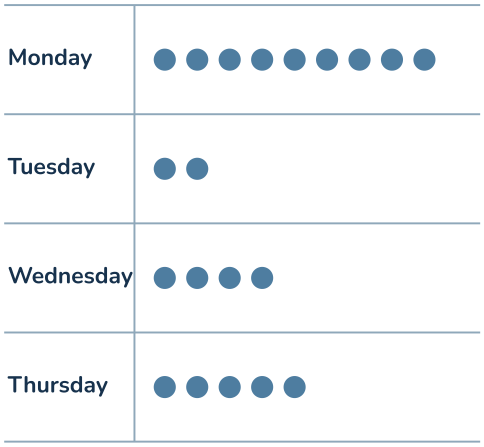
Only now count the shaded ones: 1. The number NOT shaded (2) is also sitting there in the picture, and writing that underneath is the usual mistake.

Shaded over total: 1/3.

Picture Graphs and Bar Graphs

Picture graphs

1.



Each ● stands for 1.

Which has the fewest?

Monday: 9 drawn → 9 shells

Tuesday: 2 drawn → 2 shells

Wednesday: 4 drawn → 4 shells

Thursday: 5 drawn → 5 shells

Tuesday

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

So the counts read straight off: Monday 9, Tuesday 2, Wednesday 4, Thursday 5.

Now the question, on the NUMBERS rather than the marks: Tuesday (2). So the answer is Tuesday.

Solutions (8 of 11)

Picture Graphs and Bar Graphs (continued)

Picture graphs (continued)

2.

Shells found on the beach

Monday	●●●●●●●●●
Tuesday	●●
Wednesday	●●●●
Thursday	●●●●●

Each ● stands for 1.

How many altogether?

___

Monday: 9 drawn → 9 shells

Tuesday: 2 drawn → 2 shells

Wednesday: 4 drawn → 4 shells

Thursday: 5 drawn → 5 shells

20 shells

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

So the counts read straight off: Monday 9, Tuesday 2, Wednesday 4, Thursday 5.

Now the question, on the NUMBERS rather than the marks: 9 + 2 + 4 + 5 = 20. So the answer is 20 shells.

Solutions (9 of 11)

Picture Graphs and Bar Graphs (continued)

Bar graphs

4.

Which has the most?

____

Ali: 5 up → 5 books

Bea: 9 up → 9 books

Caz: 7 up → 7 books

Dev: 6 up → 6 books

Bea

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

So the counts read straight off: Ali 5, Bea 9, Caz 7, Dev 6.

Now the question, on the NUMBERS rather than the marks: Bea (9). So the answer is Bea.

Solutions (10 of 11)

Picture Graphs and Bar Graphs (continued)

Bar graphs (continued)

5.

Which has the fewest?

Ali: 5 up → 5 books

Bea: 9 up → 9 books

Caz: 7 up → 7 books

Dev: 6 up → 6 books

Ali

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

So the counts read straight off: Ali 5, Bea 9, Caz 7, Dev 6.

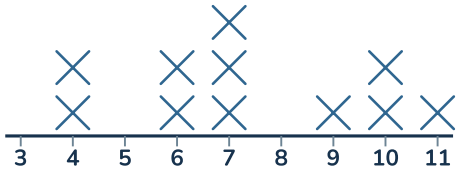
Now the question, on the NUMBERS rather than the marks: Ali (5). So the answer is Ali.

Solutions (11 of 11)

Line Plots

Line plots

1. **Length of our pencils (inches)**



How many more pencils measured 7 inches than 4 inches?

—

4 inches:	2 pencils
6 inches:	2 pencils
7 inches:	3 pencils
9 inches:	1 pencils
10 inches:	2 pencils
11 inches:	1 pencils

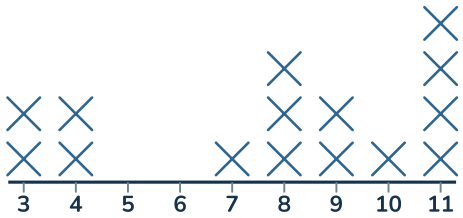
1

A line plot is not bars to read off a scale — each mark is one pencil. 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: 2 at 4, 2 at 6, 3 at 7, 1 at 9, 2 at 10, 1 at 11.

3 at 7 inches, 2 at 4 inches: 3 − 2 = 1 — so the answer is 1.

2. **Height of the bean plants (inches)**



How many plants were measured altogether?

—

3 inches:	2 plants
4 inches:	2 plants
7 inches:	1 plants
8 inches:	3 plants
9 inches:	2 plants
10 inches:	1 plants
11 inches:	4 plants

15

A line plot is not bars to read off a scale — each mark is one plant. 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: 2 at 3, 2 at 4, 1 at 7, 3 at 8, 2 at 9, 1 at 10, 4 at 11.

2 + 2 + 1 + 3 + 2 + 1 + 4 = 15 — so the answer is 15.