

Grade 4 Math Review Workbook

9 lessons · printable · answer key at the back

Name _____

Date _____

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Rounding to the Nearest Ten

WORKED EXAMPLE

$$819 \approx \underline{820}$$

1. Rounding numbers

Round each number to the nearest 10.

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 713 $\approx$ _____ | 2 172 $\approx$ _____ | 3 72 $\approx$ _____ | 4 17 $\approx$ _____ |
| 5 947 $\approx$ _____ | 6 751 $\approx$ _____ | 7 74 $\approx$ _____ | 8 21 $\approx$ _____ |
| 9 305 $\approx$ _____ | 10 539 $\approx$ _____ | 11 531 $\approx$ _____ | 12 327 $\approx$ _____ |
| 13 303 $\approx$ _____ | 14 311 $\approx$ _____ | 15 82 $\approx$ _____ | 16 589 $\approx$ _____ |
| 17 639 $\approx$ _____ | 18 499 $\approx$ _____ | 19 716 $\approx$ _____ | 20 675 $\approx$ _____ |
| 21 491 $\approx$ _____ | 22 542 $\approx$ _____ | 23 147 $\approx$ _____ | 24 963 $\approx$ _____ |
| 25 126 $\approx$ _____ | 26 957 $\approx$ _____ | 27 304 $\approx$ _____ | |

2. Estimating a sum

Round each number to the nearest ten, then add.

- | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|
| 28 126 + 191 $\approx$ _____ | 29 161 + 235 $\approx$ _____ | 30 126 + 422 $\approx$ _____ |
| 31 133 + 532 $\approx$ _____ | 32 112 + 862 $\approx$ _____ | 33 105 + 147 $\approx$ _____ |
| 34 133 + 323 $\approx$ _____ | 35 161 + 224 $\approx$ _____ | |

3. Estimating a difference

Round each number to the nearest ten, then subtract.

- | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|
| 36 196 - 191 $\approx$ _____ | 37 245 - 213 $\approx$ _____ | 38 301 - 125 $\approx$ _____ |
| 39 182 - 136 $\approx$ _____ | 40 413 - 213 $\approx$ _____ | 41 406 - 301 $\approx$ _____ |
| 42 133 - 114 $\approx$ _____ | 43 231 - 169 $\approx$ _____ | |

4. Estimating a product

Round each number to the nearest ten, then multiply.

- | | | |
|---|---|---|
| 44 41 $\times$ 25 $\approx$ _____ | 45 62 $\times$ 11 $\approx$ _____ | 46 83 $\times$ 46 $\approx$ _____ |
| 47 44 $\times$ 53 $\approx$ _____ | 48 62 $\times$ 74 $\approx$ _____ | 49 47 $\times$ 81 $\approx$ _____ |
| 50 14 $\times$ 11 $\approx$ _____ | 51 47 $\times$ 53 $\approx$ _____ | |

Multiplying Two Digits by Two

WORKED EXAMPLE

$$\begin{array}{r}
 47 \\
 \times 32 \\
 \hline
 94 \\
 1410 \\
 \hline
 1504
 \end{array}$$

5. Multiply multi-digit numbers

Multiply. Show your working.

$$\begin{array}{r}
 1 \quad 11 \\
 \times 99 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2 \quad 56 \\
 \times 18 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3 \quad 30 \\
 \times 61 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4 \quad 34 \\
 \times 43 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5 \quad 29 \\
 \times 11 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6 \quad 42 \\
 \times 61 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7 \quad 18 \\
 \times 14 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8 \quad 95 \\
 \times 99 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 9 \quad 40 \\
 \times 38 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 10 \quad 67 \\
 \times 36 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 11 \quad 63 \\
 \times 21 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 12 \quad 33 \\
 \times 40 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 13 \quad 35 \\
 \times 86 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 14 \quad 10 \\
 \times 19 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 15 \quad 60 \\
 \times 83 \\
 \hline
 \end{array}$$

Long Division with Remainders

WORKED EXAMPLE

$$\begin{array}{r} 54 \\ 5 \overline{)274} \\ \underline{25} \\ 24 \\ \underline{20} \\ 4 \end{array}$$

6. Long division with remainders

Divide. Give the quotient and the remainder.

$$\begin{array}{l} 1 \quad \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \\ 3 \overline{)404} \quad 7 \overline{)627} \quad 8 \overline{)171} \quad 6 \overline{)389} \quad 7 \overline{)888} \quad 7 \overline{)398} \end{array}$$

$$\begin{array}{l} 7 \quad \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \quad \quad \underline{\quad} \text{ R } \underline{\quad} \\ 3 \overline{)545} \quad 8 \overline{)390} \quad 9 \overline{)438} \quad 3 \overline{)215} \end{array}$$

Multiples

WORKED EXAMPLE

5 → 5, 10, 15, 20, 25

7. Multiples

List the first five multiples of each number.

- 1 13 → _____
- 2 19 → _____
- 3 7 → _____
- 4 4 → _____
- 5 30 → _____
- 6 25 → _____
- 7 8 → _____
- 8 2 → _____
- 9 27 → _____
- 10 39 → _____
- 11 3 → _____

8. Circling multiples

Circle every multiple of the number in the box.

- | | | | | | | | |
|----|----|----|----|----|----|----|----|
| 12 | 2 | 5 | 29 | 36 | 15 | 32 | 23 |
| 13 | 6 | 22 | 5 | 30 | 27 | 24 | 18 |
| 14 | 5 | 13 | 10 | 15 | 37 | 12 | 39 |
| 15 | 2 | 15 | 13 | 30 | 9 | 6 | 8 |
| 16 | 11 | 33 | 27 | 14 | 28 | 10 | 11 |
| 17 | 7 | 28 | 7 | 11 | 16 | 34 | 35 |

Mixed Numbers

WORKED EXAMPLE

$$4\frac{2}{5} + 3\frac{2}{5} = 7\frac{4}{5}$$

9. Adding mixed numbers

Add. Write each answer as a mixed number in simplest form.

$$1 \quad 5\frac{1}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$2 \quad 4\frac{4}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$3 \quad 5\frac{1}{8} + 3\frac{5}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$4 \quad 2\frac{1}{5} + 4\frac{3}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$5 \quad 3\frac{6}{7} + 5\frac{6}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$6 \quad 2\frac{3}{7} + 4\frac{2}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$7 \quad 5\frac{2}{5} + 3\frac{4}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$8 \quad 2\frac{3}{7} + 2\frac{1}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$9 \quad 1\frac{4}{5} + 2\frac{1}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$10 \quad 4\frac{3}{7} + 3\frac{3}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$11 \quad 1\frac{5}{8} + 5\frac{5}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$12 \quad 4\frac{3}{7} + 5\frac{1}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$13 \quad 1\frac{2}{7} + 1\frac{3}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$14 \quad 5\frac{4}{5} + 1\frac{2}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$15 \quad 1\frac{5}{8} + 1\frac{1}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$16 \quad 2\frac{2}{5} + 5\frac{3}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$17 \quad 2\frac{4}{7} + 3\frac{1}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$18 \quad 2\frac{4}{5} + 4\frac{1}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$19 \quad 2\frac{1}{7} + 3\frac{3}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$20 \quad 1\frac{5}{8} + 2\frac{5}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$21 \quad 2\frac{3}{8} + 3\frac{1}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$22 \quad 3\frac{1}{8} + 3\frac{7}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$23 \quad 2\frac{2}{7} + 5\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$24 \quad 4\frac{6}{7} + 3\frac{1}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$25 \quad 5\frac{1}{7} + 2\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$26 \quad 2\frac{3}{5} + 3\frac{3}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$27 \quad 2\frac{1}{8} + 2\frac{3}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$28 \quad 4\frac{3}{5} + 4\frac{1}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$29 \quad 3\frac{4}{7} + 2\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$30 \quad 3\frac{1}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$31 \quad 1\frac{1}{7} + 4\frac{6}{7} = \underline{\hspace{1cm}} \text{ —}$$

$$32 \quad 1\frac{3}{8} + 5\frac{1}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$33 \quad 2\frac{5}{8} + 3\frac{3}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$34 \quad 5\frac{1}{5} + 4\frac{3}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$35 \quad 5\frac{3}{4} + 2\frac{3}{4} = \underline{\hspace{1cm}} \text{ —}$$

$$36 \quad 2\frac{1}{5} + 2\frac{3}{5} = \underline{\hspace{1cm}} \text{ —}$$

$$37 \quad 3\frac{5}{8} + 5\frac{7}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$38 \quad 1\frac{1}{8} + 5\frac{1}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$39 \quad 2\frac{5}{8} + 1\frac{7}{8} = \underline{\hspace{1cm}} \text{ —}$$

$$40 \quad 4\frac{1}{6} + 3\frac{1}{6} = \underline{\hspace{1cm}} \text{ —}$$

$$41 \quad 1\frac{4}{5} + 1\frac{2}{5} = \underline{\hspace{1cm}} \text{ —}$$

Comparing Decimals

WORKED EXAMPLE

$2.9 \boxed{<} 7.48$

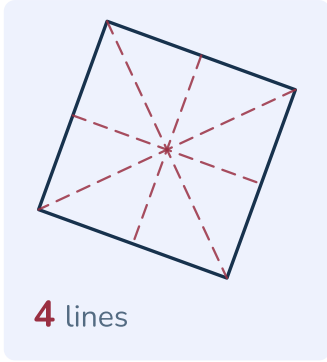
10. Compare decimals

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

- | | | | |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 1 $5.4 \boxed{} 2.5$ | 2 $6.5 \boxed{} 3.7$ | 3 $2.0 \boxed{} 2.71$ | 4 $7.40 \boxed{} 9.81$ |
| 5 $0.81 \boxed{} 7.6$ | 6 $5.9 \boxed{} 2.37$ | 7 $7.46 \boxed{} 2.6$ | 8 $6.2 \boxed{} 2.65$ |
| 9 $2.8 \boxed{} 6.0$ | 10 $3.12 \boxed{} 5.71$ | 11 $3.4 \boxed{} 3.40$ | 12 $1.05 \boxed{} 7.5$ |
| 13 $2.48 \boxed{} 6.41$ | 14 $1.7 \boxed{} 5.4$ | 15 $1.26 \boxed{} 9.88$ | 16 $6.57 \boxed{} 2.15$ |
| 17 $4.0 \boxed{} 0.89$ | 18 $7.21 \boxed{} 6.05$ | 19 $8.3 \boxed{} 7.4$ | 20 $3.66 \boxed{} 5.6$ |
| 21 $4.4 \boxed{} 0.6$ | 22 $6.7 \boxed{} 9.7$ | 23 $9.97 \boxed{} 1.21$ | 24 $3.0 \boxed{} 3.00$ |
| 25 $9.2 \boxed{} 0.36$ | 26 $6.28 \boxed{} 8.56$ | 27 $0.3 \boxed{} 1.96$ | 28 $4.04 \boxed{} 1.81$ |
| 29 $8.8 \boxed{} 4.58$ | 30 $9.35 \boxed{} 2.8$ | | |

Lines of Symmetry

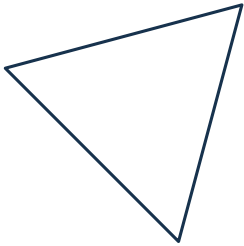
WORKED EXAMPLE



11. Lines of symmetry

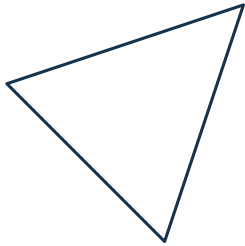
Write how many lines of symmetry each shape has.

1



_____ lines

2



_____ lines

3



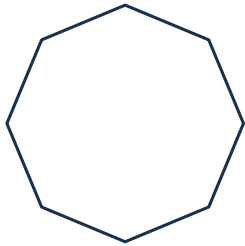
_____ lines

4



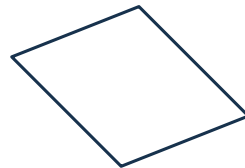
_____ lines

5



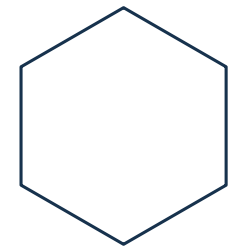
_____ lines

6



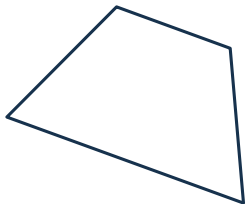
_____ lines

7



_____ lines

8



_____ lines

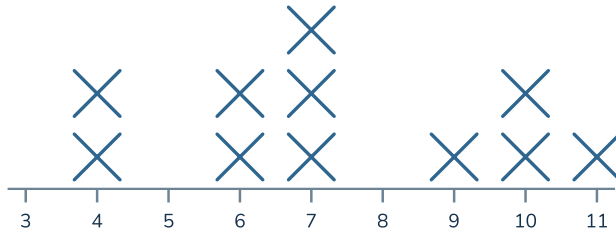
Line Plots and Bar Graphs

12. Line plots

Read each line plot and answer the question.

1

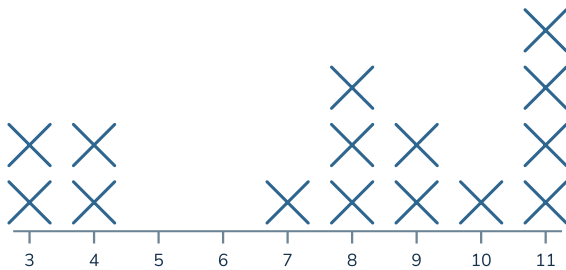
Length of our pencils (inches)



How many more pencils measured 7 inches than 4 inches?

2

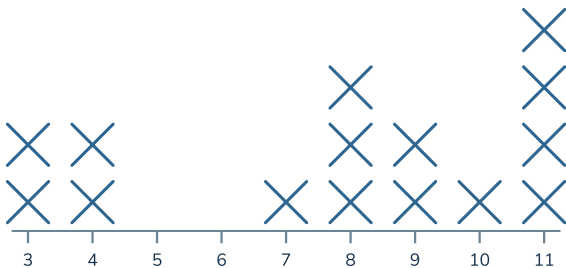
Height of the bean plants (inches)



How many plants were measured altogether?

3

Height of the bean plants (inches)

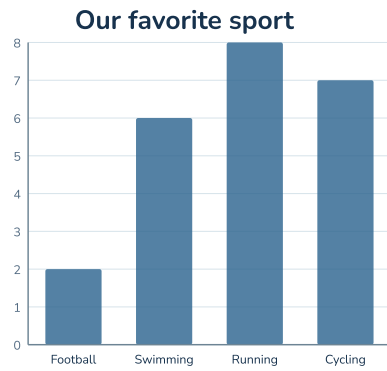


How many plants were longer than 4 inches?

13. Bar graphs

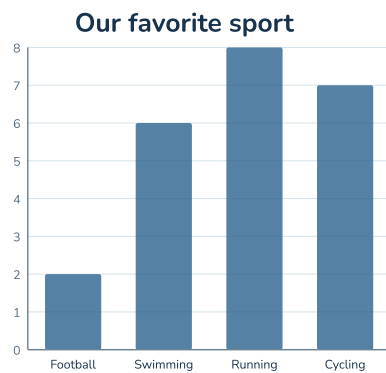
Read each bar graph and answer the question.

4



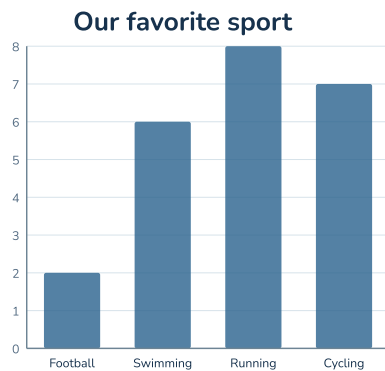
How many more chose running than chose football?

5



How many fewer chose swimming than chose running?

6



How many altogether?

Review: Division and Factors

WORKED EXAMPLE

$$33 \div 5 = \underline{6} \text{ R } \underline{3}$$

14. Division with remainders

Divide. Write the quotient and the remainder.

1 $57 \div 5 = \underline{\quad} \text{ R } \underline{\quad}$

2 $7 \div 2 = \underline{\quad} \text{ R } \underline{\quad}$

3 $112 \div 9 = \underline{\quad} \text{ R } \underline{\quad}$

4 $47 \div 5 = \underline{\quad} \text{ R } \underline{\quad}$

5 $77 \div 8 = \underline{\quad} \text{ R } \underline{\quad}$

6 $43 \div 6 = \underline{\quad} \text{ R } \underline{\quad}$

7 $86 \div 9 = \underline{\quad} \text{ R } \underline{\quad}$

8 $27 \div 5 = \underline{\quad} \text{ R } \underline{\quad}$

9 $63 \div 8 = \underline{\quad} \text{ R } \underline{\quad}$

10 $46 \div 5 = \underline{\quad} \text{ R } \underline{\quad}$

11 $100 \div 9 = \underline{\quad} \text{ R } \underline{\quad}$

12 $82 \div 8 = \underline{\quad} \text{ R } \underline{\quad}$

15. List the factors

List all the factors of each number.

13 $39 \rightarrow$ _____

14 $4 \rightarrow$ _____

15 $32 \rightarrow$ _____

16 $14 \rightarrow$ _____

17 $16 \rightarrow$ _____

18 $27 \rightarrow$ _____

19 $18 \rightarrow$ _____

20 $23 \rightarrow$ _____

21 $24 \rightarrow$ _____

22 $8 \rightarrow$ _____

23 $28 \rightarrow$ _____

24 $30 \rightarrow$ _____

25 $26 \rightarrow$ _____

26 $12 \rightarrow$ _____

27 $17 \rightarrow$ _____

Answer Key (1 of 3)

Rounding to the Nearest Ten

Rounding numbers

1. $713 \approx 710$
2. $172 \approx 170$
3. $72 \approx 70$
4. $17 \approx 20$
5. $947 \approx 950$
6. $751 \approx 750$
7. $74 \approx 70$
8. $21 \approx 20$
9. $305 \approx 310$
10. $539 \approx 540$
11. $531 \approx 530$
12. $327 \approx 330$
13. $303 \approx 300$
14. $311 \approx 310$
15. $82 \approx 80$
16. $589 \approx 590$
17. $639 \approx 640$
18. $499 \approx 500$
19. $716 \approx 720$
20. $675 \approx 680$
21. $491 \approx 490$
22. $542 \approx 540$
23. $147 \approx 150$
24. $963 \approx 960$
25. $126 \approx 130$
26. $957 \approx 960$
27. $304 \approx 300$

Estimating a sum

28. $126 + 191 \approx 130 + 190 = 320$
29. $161 + 235 \approx 160 + 240 = 400$
30. $126 + 422 \approx 130 + 420 = 550$
31. $133 + 532 \approx 130 + 530 = 660$
32. $112 + 862 \approx 110 + 860 = 970$
33. $105 + 147 \approx 110 + 150 = 260$
34. $133 + 323 \approx 130 + 320 = 450$
35. $161 + 224 \approx 160 + 220 = 380$

Estimating a difference

36. $196 - 191 \approx 200 - 190 = 10$
37. $245 - 213 \approx 250 - 210 = 40$
38. $301 - 125 \approx 300 - 130 = 170$
39. $182 - 136 \approx 180 - 140 = 40$
40. $413 - 213 \approx 410 - 210 = 200$

Rounding to the Nearest Ten (continued)

Estimating a difference (continued)

41. $406 - 301 \approx 410 - 300 = 110$
42. $133 - 114 \approx 130 - 110 = 20$
43. $231 - 169 \approx 230 - 170 = 60$

Estimating a product

44. $41 \times 25 \approx 40 \times 30 = 1200$
45. $62 \times 11 \approx 60 \times 10 = 600$
46. $83 \times 46 \approx 80 \times 50 = 4000$
47. $44 \times 53 \approx 40 \times 50 = 2000$
48. $62 \times 74 \approx 60 \times 70 = 4200$
49. $47 \times 81 \approx 50 \times 80 = 4000$
50. $14 \times 11 \approx 10 \times 10 = 100$
51. $47 \times 53 \approx 50 \times 50 = 2500$

Multiplying Two Digits by Two

Multiply multi-digit numbers

1. $11 \times 99 = 1089$
2. $56 \times 18 = 1008$
3. $30 \times 61 = 1830$
4. $34 \times 43 = 1462$
5. $29 \times 11 = 319$
6. $42 \times 61 = 2562$
7. $18 \times 14 = 252$
8. $95 \times 99 = 9405$
9. $40 \times 38 = 1520$
10. $67 \times 36 = 2412$
11. $63 \times 21 = 1323$
12. $33 \times 40 = 1320$
13. $35 \times 86 = 3010$
14. $10 \times 19 = 190$
15. $60 \times 83 = 4980$

Long Division with Remainders

Long division with remainders

1. $404 \div 3 = 134 \text{ R } 2$
2. $627 \div 7 = 89 \text{ R } 4$
3. $171 \div 8 = 21 \text{ R } 3$
4. $389 \div 6 = 64 \text{ R } 5$
5. $888 \div 7 = 126 \text{ R } 6$
6. $398 \div 7 = 56 \text{ R } 6$
7. $545 \div 3 = 181 \text{ R } 2$
8. $390 \div 8 = 48 \text{ R } 6$
9. $438 \div 9 = 48 \text{ R } 6$
10. $215 \div 3 = 71 \text{ R } 2$

Answer Key (2 of 3)

Multiples

Multiples

1. $13 \rightarrow 13, 26, 39, 52, 65$
2. $19 \rightarrow 19, 38, 57, 76, 95$
3. $7 \rightarrow 7, 14, 21, 28, 35$
4. $4 \rightarrow 4, 8, 12, 16, 20$
5. $30 \rightarrow 30, 60, 90, 120, 150$
6. $25 \rightarrow 25, 50, 75, 100, 125$
7. $8 \rightarrow 8, 16, 24, 32, 40$
8. $2 \rightarrow 2, 4, 6, 8, 10$
9. $27 \rightarrow 27, 54, 81, 108, 135$
10. $39 \rightarrow 39, 78, 117, 156, 195$
11. $3 \rightarrow 3, 6, 9, 12, 15$

Circling multiples

12. $2 \rightarrow 32, 36$
13. $6 \rightarrow 18, 24, 30$
14. $5 \rightarrow 10, 15$
15. $2 \rightarrow 6, 8, 30$
16. $11 \rightarrow 11, 33$
17. $7 \rightarrow 7, 28, 35$

Mixed Numbers

Adding mixed numbers

1. $5 \frac{1}{7} + 4 \frac{4}{7} = 9 \frac{5}{7}$
2. $4 \frac{4}{7} + 4 \frac{4}{7} = 9 \frac{1}{7}$
3. $5 \frac{1}{8} + 3 \frac{5}{8} = 8 \frac{3}{4}$
4. $2 \frac{1}{5} + 4 \frac{3}{5} = 6 \frac{4}{5}$
5. $3 \frac{6}{7} + 5 \frac{6}{7} = 9 \frac{5}{7}$
6. $2 \frac{3}{7} + 4 \frac{2}{7} = 6 \frac{5}{7}$
7. $5 \frac{2}{5} + 3 \frac{4}{5} = 9 \frac{1}{5}$
8. $2 \frac{3}{7} + 2 \frac{1}{7} = 4 \frac{4}{7}$
9. $1 \frac{4}{5} + 2 \frac{1}{5} = 4$
10. $4 \frac{3}{7} + 3 \frac{3}{7} = 7 \frac{6}{7}$
11. $1 \frac{5}{8} + 5 \frac{5}{8} = 7 \frac{1}{4}$
12. $4 \frac{3}{7} + 5 \frac{1}{7} = 9 \frac{4}{7}$
13. $1 \frac{2}{7} + 1 \frac{3}{7} = 2 \frac{5}{7}$
14. $5 \frac{4}{5} + 1 \frac{2}{5} = 7 \frac{1}{5}$
15. $1 \frac{5}{8} + 1 \frac{1}{8} = 2 \frac{3}{4}$
16. $2 \frac{2}{5} + 5 \frac{3}{5} = 8$
17. $2 \frac{4}{7} + 3 \frac{1}{7} = 5 \frac{5}{7}$
18. $2 \frac{4}{5} + 4 \frac{1}{5} = 7$
19. $2 \frac{1}{7} + 3 \frac{3}{7} = 5 \frac{4}{7}$
20. $1 \frac{5}{8} + 2 \frac{5}{8} = 4 \frac{1}{4}$
21. $2 \frac{3}{8} + 3 \frac{1}{8} = 5 \frac{1}{2}$
22. $3 \frac{1}{8} + 3 \frac{7}{8} = 7$

Mixed Numbers (continued)

Adding mixed numbers (continued)

23. $2 \frac{2}{7} + 5 \frac{4}{7} = 7 \frac{6}{7}$
24. $4 \frac{6}{7} + 3 \frac{1}{7} = 8$
25. $5 \frac{1}{7} + 2 \frac{4}{7} = 7 \frac{5}{7}$
26. $2 \frac{3}{5} + 3 \frac{3}{5} = 6 \frac{1}{5}$
27. $2 \frac{1}{8} + 2 \frac{3}{8} = 4 \frac{1}{2}$
28. $4 \frac{3}{5} + 4 \frac{1}{5} = 8 \frac{4}{5}$
29. $3 \frac{4}{7} + 2 \frac{4}{7} = 6 \frac{1}{7}$
30. $3 \frac{1}{7} + 4 \frac{4}{7} = 7 \frac{5}{7}$
31. $1 \frac{1}{7} + 4 \frac{6}{7} = 6$
32. $1 \frac{3}{8} + 5 \frac{1}{8} = 6 \frac{1}{2}$
33. $2 \frac{5}{8} + 3 \frac{3}{8} = 6$
34. $5 \frac{1}{5} + 4 \frac{3}{5} = 9 \frac{4}{5}$
35. $5 \frac{3}{4} + 2 \frac{3}{4} = 8 \frac{1}{2}$
36. $2 \frac{1}{5} + 2 \frac{3}{5} = 4 \frac{4}{5}$
37. $3 \frac{5}{8} + 5 \frac{7}{8} = 9 \frac{1}{2}$
38. $1 \frac{1}{8} + 5 \frac{1}{8} = 6 \frac{1}{4}$
39. $2 \frac{5}{8} + 1 \frac{7}{8} = 4 \frac{1}{2}$
40. $4 \frac{1}{6} + 3 \frac{1}{6} = 7 \frac{1}{3}$
41. $1 \frac{4}{5} + 1 \frac{2}{5} = 3 \frac{1}{5}$

Comparing Decimals

Compare decimals

1. $5.4 > 2.5$
2. $6.5 > 3.7$
3. $2.0 < 2.71$
4. $7.40 < 9.81$
5. $0.81 < 7.6$
6. $5.9 > 2.37$
7. $7.46 > 2.6$
8. $6.2 > 2.65$
9. $2.8 < 6.0$
10. $3.12 < 5.71$
11. $3.4 = 3.40$
12. $1.05 < 7.5$
13. $2.48 < 6.41$
14. $1.7 < 5.4$
15. $1.26 < 9.88$
16. $6.57 > 2.15$
17. $4.0 > 0.89$
18. $7.21 > 6.05$
19. $8.3 > 7.4$
20. $3.66 < 5.6$
21. $4.4 > 0.6$

Answer Key (3 of 3)

Comparing Decimals (continued)

Compare decimals (continued)

22. $6.7 < 9.7$
23. $9.97 > 1.21$
24. $3.0 = 3.00$
25. $9.2 > 0.36$
26. $6.28 < 8.56$
27. $0.3 < 1.96$
28. $4.04 > 1.81$
29. $8.8 > 4.58$
30. $9.35 > 2.8$

Lines of Symmetry

Lines of symmetry

1. equilateral triangle turned 45° : 3
2. isosceles triangle turned 45° : 1
3. parallelogram: 0
4. rectangle: 2
5. regular octagon turned 45° : 8
6. parallelogram turned 45° : 0
7. regular hexagon: 6
8. isosceles trapezoid turned 20° : 1

Line Plots and Bar Graphs

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

Bar graphs

4. Running is $8 - 2 = 6$ more than Football
5. Swimming is $8 - 6 = 2$ fewer than Running
6. $2 + 6 + 8 + 7 = 23$

Review: Division and Factors

Division with remainders

1. $57 \div 5 = 11 \text{ R } 2$
2. $7 \div 2 = 3 \text{ R } 1$
3. $112 \div 9 = 12 \text{ R } 4$
4. $47 \div 5 = 9 \text{ R } 2$
5. $77 \div 8 = 9 \text{ R } 5$
6. $43 \div 6 = 7 \text{ R } 1$
7. $86 \div 9 = 9 \text{ R } 5$
8. $27 \div 5 = 5 \text{ R } 2$
9. $63 \div 8 = 7 \text{ R } 7$

Review: Division and Factors (continued)

Division with remainders (continued)

10. $46 \div 5 = 9 \text{ R } 1$
11. $100 \div 9 = 11 \text{ R } 1$
12. $82 \div 8 = 10 \text{ R } 2$

List the factors

13. $39 \rightarrow 1, 3, 13, 39$
14. $4 \rightarrow 1, 2, 4$
15. $32 \rightarrow 1, 2, 4, 8, 16, 32$
16. $14 \rightarrow 1, 2, 7, 14$
17. $16 \rightarrow 1, 2, 4, 8, 16$
18. $27 \rightarrow 1, 3, 9, 27$
19. $18 \rightarrow 1, 2, 3, 6, 9, 18$
20. $23 \rightarrow 1, 23$
21. $24 \rightarrow 1, 2, 3, 4, 6, 8, 12, 24$
22. $8 \rightarrow 1, 2, 4, 8$
23. $28 \rightarrow 1, 2, 4, 7, 14, 28$
24. $30 \rightarrow 1, 2, 3, 5, 6, 10, 15, 30$
25. $26 \rightarrow 1, 2, 13, 26$
26. $12 \rightarrow 1, 2, 3, 4, 6, 12$
27. $17 \rightarrow 1, 17$

Solutions (1 of 12)

Rounding to the Nearest Ten

Rounding numbers

1. $713 \approx \underline{\hspace{2cm}}$

$$\begin{array}{ccc} 7 & 1 & 3 \\ 713 & \rightarrow & 710 \end{array}$$

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

Now look at the single digit just after it: 3. Nothing further along matters at all.

3 is less than 5, so 713 is nearer 710 than 720. It stays down.

So 713 to the nearest ten is 710.

2. $172 \approx \underline{\hspace{2cm}}$

$$\begin{array}{ccc} 1 & 7 & 2 \\ 172 & \rightarrow & 170 \end{array}$$

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

Now look at the single digit just after it: 2. Nothing further along matters at all.

2 is less than 5, so 172 is nearer 170 than 180. It stays down.

So 172 to the nearest ten is 170.

Estimating a sum

28. $126 + 191 \approx \underline{\hspace{2cm}}$

$$\begin{array}{rcl} 126 & + & 191 \\ 130 & + & 191 \\ 130 & + & 190 \\ & & 320 \end{array}$$

Do not work it out exactly. Round each number first. 126 is nearer 130 than 120, so to the nearest ten it becomes 130.

191 is nearer 190 than 200, so to the nearest ten it becomes 190.

Now it is easy enough to do in your head: $130 + 190 = 320$.

The exact answer is 317, so the estimate of 320 is 3 away. Close enough to catch a wrong answer with, and you did it in your head.

Solutions (2 of 12)

Rounding to the Nearest Ten (continued)

Estimating a sum (continued)

29. $161 + 235 \approx \underline{\hspace{2cm}}$

$$\begin{array}{r} 161 + 235 \\ 160 + 235 \\ 160 + 240 \\ \hline 400 \end{array}$$

Do not work it out exactly. Round each number first. 161 is nearer 160 than 170, so to the nearest ten it becomes 160.

235 sits exactly halfway between 230 and 240, and a half always rounds up — so 235 becomes 240.

Now it is easy enough to do in your head: $160 + 240 = 400$.

The exact answer is 396, so the estimate of 400 is 4 away. Close enough to catch a wrong answer with, and you did it in your head.

Multiplying Two Digits by Two

Multiply multi-digit numbers

1.

$$\begin{array}{r} 11 \\ \times 99 \\ \hline 99 \\ 990 \\ \hline 1089 \end{array}$$

11×99 , set out in columns. Split the 99 by place value and take one piece at a time.

The 9 is in the ones, so it is just 9: $11 \times 9 = 99$.

The 9 is in the tens, so it is worth 90 — not 9.

That is why this row is $11 \times 90 = 990$, and why it ends in 0.

Now add the pieces: $99 + 990 = 1089$.

2.

$$\begin{array}{r} 56 \\ \times 18 \\ \hline 448 \\ 560 \\ \hline 1008 \end{array}$$

56×18 , set out in columns. Split the 18 by place value and take one piece at a time.

The 8 is in the ones, so it is just 8: $56 \times 8 = 448$.

The 1 is in the tens, so it is worth 10 — not 1.

That is why this row is $56 \times 10 = 560$, and why it ends in 0.

Now add the pieces: $448 + 560 = 1008$.

Solutions (3 of 12)

Long Division with Remainders

Long division with remainders

1.

$$\begin{array}{r} 134 \\ 3 \overline{)404} \\ \underline{3} \\ 10 \\ \underline{9} \\ 14 \\ \underline{12} \\ 2 \end{array}$$

404 shared into groups of 3. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 3s fit into 4? 1 of them — write the 1 on top. $1 \times 3 = 3$, and $4 - 3$ leaves 1. Bring down the 0, which makes 10.

How many 3s fit into 10? 3 — write it on top. $3 \times 3 = 9$, and $10 - 9$ leaves 1. Bring down the 4, which makes 14.

How many 3s fit into 14? 4 — write it on top. $4 \times 3 = 12$, and $14 - 12$ leaves 2.

Nothing is left to bring down, and 2 is too small to divide again — so that is the remainder. $404 \div 3 = 134$ remainder 2.

2.

$$\begin{array}{r} 89 \\ 7 \overline{)627} \\ \underline{56} \\ 67 \\ \underline{63} \\ 4 \end{array}$$

627 shared into groups of 7. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 7s fit into 62? 8 of them — write the 8 on top. $8 \times 7 = 56$, and $62 - 56$ leaves 6. Bring down the 7, which makes 67.

How many 7s fit into 67? 9 — write it on top. $9 \times 7 = 63$, and $67 - 63$ leaves 4.

Nothing is left to bring down, and 4 is too small to divide again — so that is the remainder. $627 \div 7 = 89$ remainder 4.

Multiples

Multiples

1. 13 → _____

count:

13

26

39

52

65

Multiples of 13 are what you get COUNTING IN 13s — they start at 13 and only get bigger. (Factors are the other way: they go into 13 and are never bigger than it. The two words are swapped more often than either is misunderstood.)

So just count: 13, 26, 39, 52, 65. Each one is 13 more than the last — no dividing, no testing.

Solutions (4 of 12)

Multiples (continued)

Multiples (continued)

2. 19 → _____

count: 19 38 57 76
95

Multiples of 19 are what you get COUNTING IN 19s — they start at 19 and only get bigger. (Factors are the other way: they go into 19 and are never bigger than it. The two words are swapped more often than either is misunderstood.)

So just count: 19, 38, 57, 76, 95. Each one is 19 more than the last — no dividing, no testing.

Mixed Numbers

Adding mixed numbers

1. $5\frac{1}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}}$

$$\begin{array}{rclcl} \frac{1}{7} & + & \frac{4}{7} & = & \frac{5}{7} \\ 5 & + & 4 & = & 9 \\ & = & 9 & \frac{5}{7} \end{array}$$

A mixed number is a whole and a fraction stuck together. Deal with them separately — wholes with wholes, sevenths with sevenths.

The fractions go together first: $\frac{1}{7} + \frac{4}{7} = \frac{5}{7}$.

Then the wholes: $5 + 4 = 9$.

So the answer is $9\frac{5}{7}$.

2. $4\frac{4}{7} + 4\frac{4}{7} = \underline{\hspace{1cm}}$

$$\begin{array}{rclcl} \frac{4}{7} & + & \frac{4}{7} & = & \frac{8}{7} \\ 4 & + & 4 & = & 8 \\ & = & 9 & \frac{1}{7} \end{array}$$

A mixed number is a whole and a fraction stuck together. Deal with them separately — wholes with wholes, sevenths with sevenths.

The fractions go together first: $\frac{4}{7} + \frac{4}{7} = \frac{8}{7}$.

Then the wholes: $4 + 4 = 8$.

But $\frac{8}{7}$ is more than one whole — $\frac{7}{7}$ is 1 — so it splits into 1 and $\frac{1}{7}$. Give that whole one to the wholes: $8 + 1 = 9$.

So the answer is $9\frac{1}{7}$.

Solutions (5 of 12)

Comparing Decimals

Compare decimals

1. $5.4 \square 2.5$

5.4	?	2.5
54 tenths	>	25 tenths
5.4	>	2.5

Both have 1 figure after the point already, so they are counting the same sized pieces.

Now they are both tenths: 54 against 25. 54 is more. So $5.4 > 2.5$.

2. $6.5 \square 3.7$

6.5	?	3.7
65 tenths	>	37 tenths
6.5	>	3.7

Both have 1 figure after the point already, so they are counting the same sized pieces.

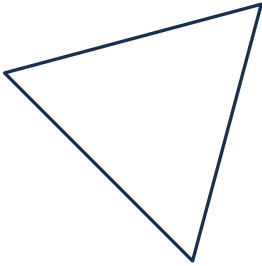
Now they are both tenths: 65 against 37. 65 is more. So $6.5 > 3.7$.

Solutions (6 of 12)

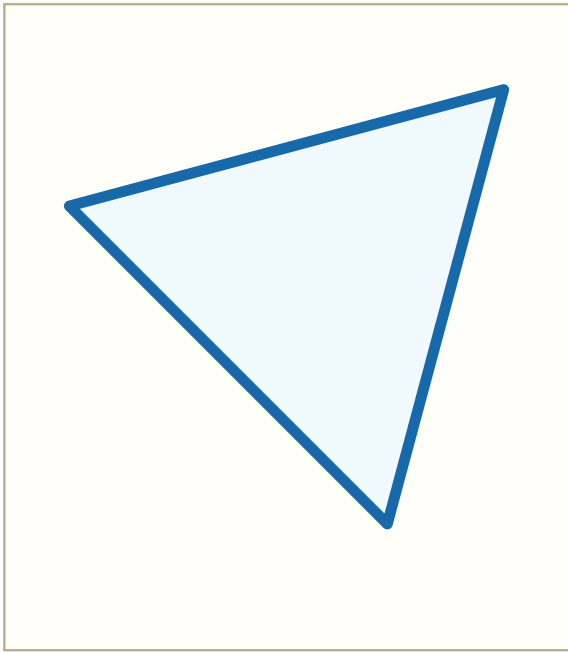
Lines of Symmetry

Lines of symmetry

1.



— lines



A line of symmetry is a FOLD: crease along it and the two halves must land exactly on each other. Not "looks balanced" — land on each other.

Here is one of them. Crease along that line and the part on the left lands exactly on the part on the right — that is what makes it count.

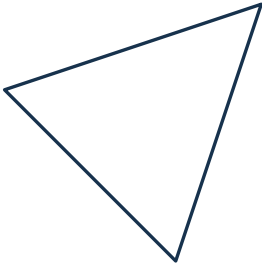
Every other crease that works is drawn now — 3 altogether for an equilateral triangle.

Solutions (7 of 12)

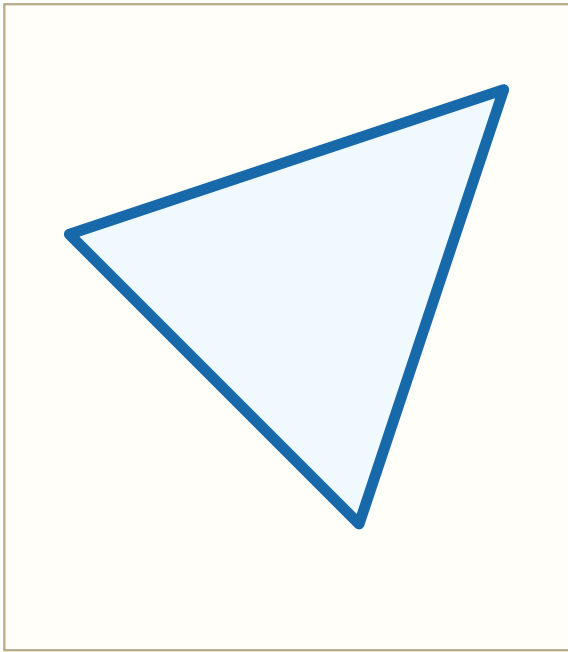
Lines of Symmetry (continued)

Lines of symmetry (continued)

2.



— lines



A line of symmetry is a FOLD: crease along it and the two halves must land exactly on each other. Not "looks balanced" — land on each other.

Here is one of them. Crease along that line and the part on the left lands exactly on the part on the right — that is what makes it count.

And that is the only one: an isosceles triangle has 1 line of symmetry.

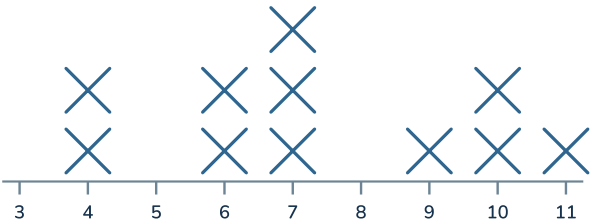
Solutions (8 of 12)

Line Plots and Bar Graphs

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.

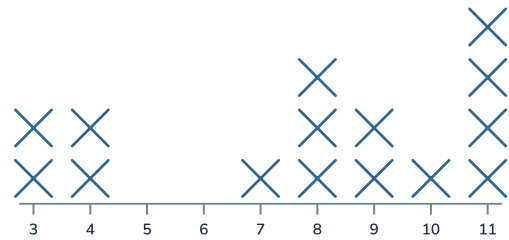
Solutions (9 of 12)

Line Plots and Bar Graphs (continued)

Line plots (continued)

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.

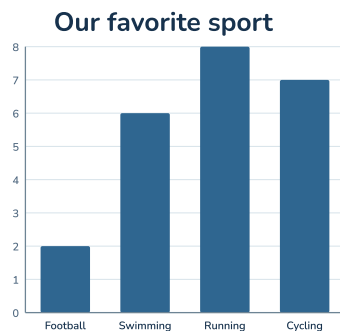
$2 + 2 + 1 + 3 + 2 + 1 + 4 = 15$ — so the answer is 15.

Solutions (10 of 12)

Line Plots and Bar Graphs (continued)

Bar graphs

4.



How many more chose running than chose football?

Football: 2 up → 2 votes
Swimming: 6 up → 6 votes
Running: 8 up → 8 votes
Cycling: 7 up → 7 votes

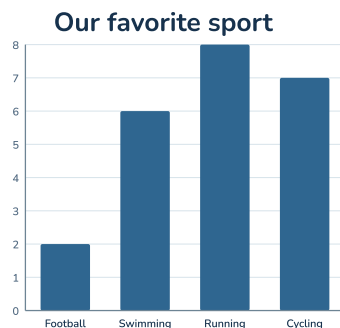
6 votes

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: Running is $8 - 2 = 6$ more than Football. So the answer is 6 votes.

5.



How many fewer chose swimming than chose running?

Football: 2 up → 2 votes
Swimming: 6 up → 6 votes
Running: 8 up → 8 votes
Cycling: 7 up → 7 votes

2 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: Swimming is $8 - 6 = 2$ fewer than Running. So the answer is 2 votes.

Solutions (11 of 12)

Review: Division and Factors

Division with remainders

1.

$$\begin{array}{r} 11 \\ 5 \overline{)57} \\ \underline{5} \\ 7 \\ \underline{5} \\ 2 \end{array}$$

57 shared into groups of 5. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 5s fit into 5? 1 of them — write the 1 on top. $1 \times 5 = 5$, and $5 - 5$ leaves 0. Bring down the 7, which makes 7.

How many 5s fit into 7? 1 — write it on top. $1 \times 5 = 5$, and $7 - 5$ leaves 2.

Nothing is left to bring down, and 2 is too small to divide again — so that is the remainder. $57 \div 5 = 11$ remainder 2.

2.

$$\begin{array}{r} 3 \\ 2 \overline{)7} \\ \underline{6} \\ 1 \end{array}$$

7 shared into groups of 2. Long division starts at the LEFT — the other way round from adding.

Start at the left. How many 2s fit into 7? 3 of them — write the 3 on top. $3 \times 2 = 6$, and $7 - 6$ leaves 1.

Nothing is left to bring down, and 1 is too small to divide again — so that is the remainder. $7 \div 2 = 3$ remainder 1.

List the factors

13. 39 → _____

so far: 1 3 13 39

Factors come in PAIRS — every one you find hands you a second. So work in from both ends rather than trying every number in turn.

$1 \times 39 = 39$, so 1 and 39 are both factors.

$3 \times 13 = 39$, so 3 and 13 are both factors.

The pair has met in the middle, so the list is finished: 1, 3, 13, 39. 4 factors.

Solutions (12 of 12)

Review: Division and Factors (continued)

List the factors (continued)

14. 4 → _____

so far: 1 2 4

Factors come in PAIRS — every one you find hands you a second. So work in from both ends rather than trying every number in turn.

$1 \times 4 = 4$, so 1 and 4 are both factors.

$2 \times 2 = 4$, so 2 pairs with itself — that is the middle, and there is nothing past it.

The pair has met in the middle, so the list is finished: 1, 2, 4. 3 factors.