

Grade 7 Math Review Workbook

6 lessons · printable · answer key at the back



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Name _____ Date _____

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Multiplying and Dividing Integers

WORKED EXAMPLE

$$-54 \div (-9) = \underline{6}$$

1. Multiplying and dividing integers

Multiply or divide. Remember what two negative signs make.

1 $-18 \div 2 = \underline{\hspace{2cm}}$

2 $-18 \div 3 = \underline{\hspace{2cm}}$

3 $-40 \div (-4) = \underline{\hspace{2cm}}$

4 $-72 \div 6 = \underline{\hspace{2cm}}$

5 $-4 \times 5 = \underline{\hspace{2cm}}$

6 $-72 \div 12 = \underline{\hspace{2cm}}$

7 $-60 \div (-10) = \underline{\hspace{2cm}}$

8 $-4 \times 7 = \underline{\hspace{2cm}}$

9 $-11 \times (-3) = \underline{\hspace{2cm}}$

10 $2 \times (-6) = \underline{\hspace{2cm}}$

11 $-99 \div (-9) = \underline{\hspace{2cm}}$

12 $-2 \times 6 = \underline{\hspace{2cm}}$

13 $-3 \times 7 = \underline{\hspace{2cm}}$

14 $-7 \times 10 = \underline{\hspace{2cm}}$

15 $3 \times (-4) = \underline{\hspace{2cm}}$

16 $-36 \div 3 = \underline{\hspace{2cm}}$

17 $-88 \div (-8) = \underline{\hspace{2cm}}$

18 $-49 \div (-7) = \underline{\hspace{2cm}}$

19 $-60 \div 6 = \underline{\hspace{2cm}}$

20 $-30 \div 10 = \underline{\hspace{2cm}}$

21 $7 \times (-8) = \underline{\hspace{2cm}}$

22 $108 \div (-12) = \underline{\hspace{2cm}}$

23 $-6 \div 3 = \underline{\hspace{2cm}}$

24 $8 \times (-8) = \underline{\hspace{2cm}}$

Percent Problems

WORKED EXAMPLE

40% more than 115 = 161

2. Percent

Work out each new amount.

- | | |
|-----------------------------|-----------------------------|
| 1 75% more than 64 = ____ | 2 20% more than 65 = ____ |
| 3 20% more than 25 = ____ | 4 50% more than 200 = ____ |
| 5 50% more than 74 = ____ | 6 80% more than 145 = ____ |
| 7 75% more than 180 = ____ | 8 50% more than 36 = ____ |
| 9 40% more than 85 = ____ | 10 50% more than 158 = ____ |
| 11 50% more than 6 = ____ | 12 10% more than 100 = ____ |
| 13 25% more than 124 = ____ | 14 10% more than 40 = ____ |
| 15 25% more than 84 = ____ | 16 50% more than 34 = ____ |
| 17 75% more than 192 = ____ | 18 25% more than 92 = ____ |
| 19 20% more than 145 = ____ | 20 40% more than 190 = ____ |
| 21 40% more than 95 = ____ | 22 10% more than 130 = ____ |
| 23 25% more than 60 = ____ | 24 80% more than 140 = ____ |
| 25 75% more than 16 = ____ | 26 10% more than 10 = ____ |
| 27 20% more than 130 = ____ | 28 20% more than 10 = ____ |
| 29 50% more than 54 = ____ | 30 60% more than 105 = ____ |
| 31 60% more than 110 = ____ | 32 80% more than 25 = ____ |
| 33 80% more than 175 = ____ | 34 80% more than 35 = ____ |
| 35 20% more than 110 = ____ | 36 20% more than 160 = ____ |
| 37 40% more than 170 = ____ | 38 75% more than 168 = ____ |
| 39 40% more than 110 = ____ | 40 60% more than 95 = ____ |
| 41 75% more than 148 = ____ | 42 50% more than 2 = ____ |
| 43 20% more than 85 = ____ | 44 10% more than 190 = ____ |

Fraction Operations

WORKED EXAMPLE

$$\frac{6}{8} \times \frac{5}{6} = \frac{5}{8}$$

3. Multiplying and dividing fractions

Multiply or divide. Write each answer in simplest form.

- | | | | |
|--|--|--|--|
| 1 $\frac{6}{7} \times \frac{3}{6} = \text{—}$ | 2 $\frac{5}{8} \div \frac{1}{8} = \text{—}$ | 3 $\frac{7}{8} \times \frac{1}{6} = \text{—}$ | 4 $\frac{3}{6} \times \frac{1}{4} = \text{—}$ |
| 5 $\frac{5}{6} \div \frac{1}{7} = \text{—}$ | 6 $\frac{6}{8} \times \frac{4}{6} = \text{—}$ | 7 $\frac{1}{5} \div \frac{3}{8} = \text{—}$ | 8 $\frac{4}{8} \times \frac{3}{5} = \text{—}$ |
| 9 $\frac{1}{4} \times \frac{4}{8} = \text{—}$ | 10 $\frac{5}{6} \div \frac{1}{3} = \text{—}$ | 11 $\frac{1}{2} \times \frac{2}{4} = \text{—}$ | 12 $\frac{2}{4} \div \frac{5}{7} = \text{—}$ |
| 13 $\frac{1}{4} \times \frac{1}{8} = \text{—}$ | 14 $\frac{2}{3} \div \frac{6}{7} = \text{—}$ | 15 $\frac{3}{5} \times \frac{4}{7} = \text{—}$ | 16 $\frac{4}{6} \times \frac{3}{8} = \text{—}$ |
| 17 $\frac{1}{7} \div \frac{1}{6} = \text{—}$ | 18 $\frac{3}{6} \times \frac{4}{8} = \text{—}$ | 19 $\frac{1}{8} \div \frac{5}{8} = \text{—}$ | 20 $\frac{4}{6} \times \frac{3}{6} = \text{—}$ |
| 21 $\frac{1}{3} \div \frac{4}{8} = \text{—}$ | 22 $\frac{7}{8} \times \frac{3}{5} = \text{—}$ | 23 $\frac{2}{5} \times \frac{2}{8} = \text{—}$ | 24 $\frac{1}{8} \div \frac{3}{5} = \text{—}$ |
| 25 $\frac{3}{6} \times \frac{1}{5} = \text{—}$ | 26 $\frac{3}{8} \div \frac{6}{7} = \text{—}$ | 27 $\frac{1}{7} \times \frac{1}{6} = \text{—}$ | 28 $\frac{2}{5} \div \frac{3}{8} = \text{—}$ |
| 29 $\frac{5}{6} \times \frac{3}{5} = \text{—}$ | 30 $\frac{7}{8} \div \frac{3}{7} = \text{—}$ | 31 $\frac{5}{6} \times \frac{1}{8} = \text{—}$ | 32 $\frac{3}{8} \times \frac{3}{5} = \text{—}$ |
| 33 $\frac{3}{6} \div \frac{1}{2} = \text{—}$ | 34 $\frac{2}{6} \times \frac{5}{7} = \text{—}$ | 35 $\frac{2}{8} \div \frac{1}{5} = \text{—}$ | 36 $\frac{1}{5} \times \frac{4}{8} = \text{—}$ |
| 37 $\frac{2}{7} \div \frac{1}{2} = \text{—}$ | 38 $\frac{1}{4} \times \frac{4}{7} = \text{—}$ | 39 $\frac{3}{5} \div \frac{4}{6} = \text{—}$ | 40 $\frac{2}{6} \times \frac{1}{8} = \text{—}$ |
| 41 $\frac{1}{8} \times \frac{2}{6} = \text{—}$ | 42 $\frac{3}{7} \div \frac{2}{5} = \text{—}$ | 43 $\frac{1}{4} \times \frac{1}{6} = \text{—}$ | 44 $\frac{4}{6} \div \frac{6}{8} = \text{—}$ |

Inequalities

WORKED EXAMPLE

$$2x + 6 \leq -14 \quad x \boxed{\leq} -10$$

4. Inequalities

Solve each one, then write $>$, $<$, $\geq$ or $\leq$ in the box.

$$1 \quad 7x + 11 < 4 \quad x \boxed{} -1$$

$$3 \quad 6x + 2 > -22 \quad x \boxed{} -4$$

$$5 \quad -8x + 6 < -34 \quad x \boxed{} 5$$

$$7 \quad -7x + 10 \leq -53 \quad x \boxed{} 9$$

$$9 \quad 2x + 9 > 77 \quad x \boxed{} 34$$

$$11 \quad 7x + 3 < -74 \quad x \boxed{} -11$$

$$13 \quad -3x + 2 > -73 \quad x \boxed{} 25$$

$$15 \quad 2x + 1 \geq -69 \quad x \boxed{} -35$$

$$17 \quad 9x + 8 > 35 \quad x \boxed{} 3$$

$$2 \quad -5x + 2 > -23 \quad x \boxed{} 5$$

$$4 \quad -8x + 1 \geq 97 \quad x \boxed{} -12$$

$$6 \quad 3x + 6 \leq 24 \quad x \boxed{} 6$$

$$8 \quad 6x + 1 \leq -23 \quad x \boxed{} -4$$

$$10 \quad -8x + 8 \geq -80 \quad x \boxed{} 11$$

$$12 \quad -3x + 5 > -10 \quad x \boxed{} 5$$

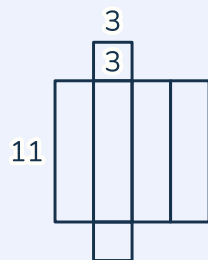
$$14 \quad 8x + 6 < 54 \quad x \boxed{} 6$$

$$16 \quad -2x + 7 \leq 57 \quad x \boxed{} -25$$

$$18 \quad -9x + 10 \geq -44 \quad x \boxed{} 6$$

Surface Area

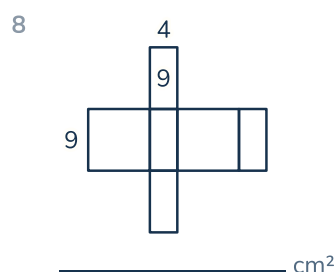
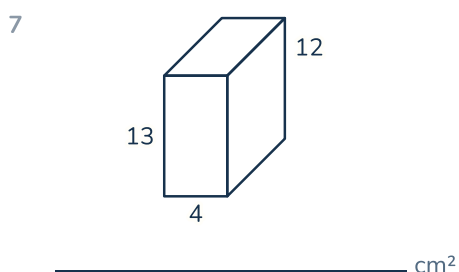
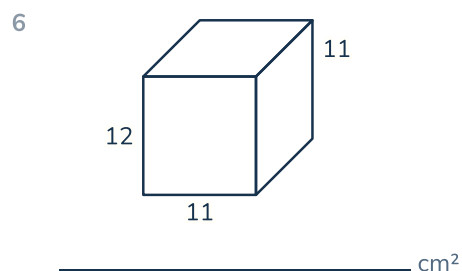
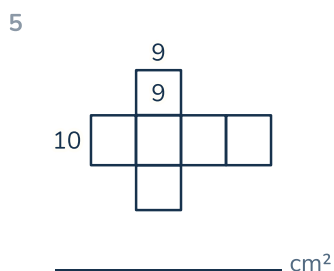
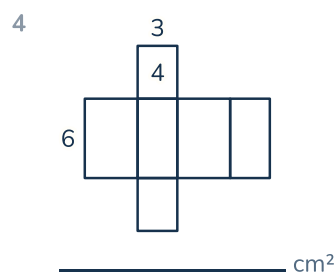
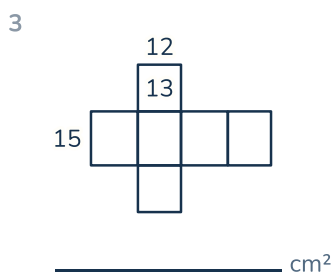
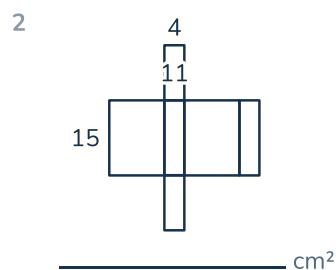
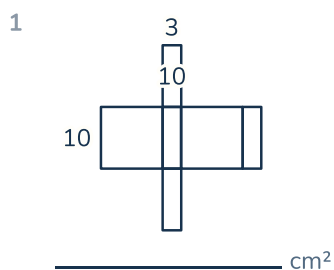
WORKED EXAMPLE



150 cm²

5. Surface area of a box

Find the surface area of each box. All lengths are in centimeters.



Mean, Median and Mode

WORKED EXAMPLE

Range

10, 20, 26, 26, 18

16

6. Mean, median, mode and range

Find the statistic named beside each set of numbers.

- | | | | |
|--|---|--|---|
| 1 Mean
34, 8, 8, 42, 33
_____ | 2 Median
25, 7, 7, 15, 21
_____ | 3 Median
4, 44, 26, 17, 44
_____ | 4 Mode
17, 41, 22, 17, 18
_____ |
| 5 Mode
48, 36, 43, 10, 48
_____ | 6 Mode
2, 43, 19, 19, 37
_____ | 7 Mean
47, 2, 44, 30, 47
_____ | 8 Mean
15, 15, 3, 6, 26
_____ |
| 9 Mean
39, 43, 33, 39, 46
_____ | 10 Range
23, 20, 13, 39, 20
_____ | 11 Mode
42, 50, 20, 31, 42
_____ | 12 Mode
49, 49, 7, 8, 42
_____ |
| 13 Mode
27, 15, 37, 27, 29
_____ | 14 Mean
24, 25, 31, 25, 50
_____ | 15 Range
25, 25, 9, 8, 3
_____ | 16 Median
49, 46, 26, 3, 46
_____ |
| 17 Range
40, 47, 3, 17, 3
_____ | 18 Mean
33, 47, 47, 14, 49
_____ | | |

Answer Key (1 of 2)

Multiplying and Dividing Integers

Multiplying and dividing integers

1. $-18 \div 2 = -9$
2. $-18 \div 3 = -6$
3. $-40 \div -4 = 10$
4. $-72 \div 6 = -12$
5. $-4 \times 5 = -20$
6. $-72 \div 12 = -6$
7. $-60 \div -10 = 6$
8. $-4 \times 7 = -28$
9. $-11 \times -3 = 33$
10. $2 \times -6 = -12$
11. $-99 \div -9 = 11$
12. $-2 \times 6 = -12$
13. $-3 \times 7 = -21$
14. $-7 \times 10 = -70$
15. $3 \times -4 = -12$
16. $-36 \div 3 = -12$
17. $-88 \div -8 = 11$
18. $-49 \div -7 = 7$
19. $-60 \div 6 = -10$
20. $-30 \div 10 = -3$
21. $7 \times -8 = -56$
22. $108 \div -12 = -9$
23. $-6 \div 3 = -2$
24. $8 \times -8 = -64$

Percent Problems

Percent

1. 75% more than 64 = 112
2. 20% more than 65 = 78
3. 20% more than 25 = 30
4. 50% more than 200 = 300
5. 50% more than 74 = 111
6. 80% more than 145 = 261
7. 75% more than 180 = 315
8. 50% more than 36 = 54
9. 40% more than 85 = 119
10. 50% more than 158 = 237
11. 50% more than 6 = 9
12. 10% more than 100 = 110
13. 25% more than 124 = 155
14. 10% more than 40 = 44
15. 25% more than 84 = 105
16. 50% more than 34 = 51
17. 75% more than 192 = 336
18. 25% more than 92 = 115
19. 20% more than 145 = 174

Percent Problems (continued)

Percent (continued)

20. 40% more than 190 = 266
21. 40% more than 95 = 133
22. 10% more than 130 = 143
23. 25% more than 60 = 75
24. 80% more than 140 = 252
25. 75% more than 16 = 28
26. 10% more than 10 = 11
27. 20% more than 130 = 156
28. 20% more than 10 = 12
29. 50% more than 54 = 81
30. 60% more than 105 = 168
31. 60% more than 110 = 176
32. 80% more than 25 = 45
33. 80% more than 175 = 315
34. 80% more than 35 = 63
35. 20% more than 110 = 132
36. 20% more than 160 = 192
37. 40% more than 170 = 238
38. 75% more than 168 = 294
39. 40% more than 110 = 154
40. 60% more than 95 = 152
41. 75% more than 148 = 259
42. 50% more than 2 = 3
43. 20% more than 85 = 102
44. 10% more than 190 = 209

Fraction Operations

Multiplying and dividing fractions

1. $6/7 \times 3/6 = 3/7$
2. $5/8 \div 1/8 = 5$
3. $7/8 \times 1/6 = 7/48$
4. $3/6 \times 1/4 = 1/8$
5. $5/6 \div 1/7 = 35/6$
6. $6/8 \times 4/6 = 1/2$
7. $1/5 \div 3/8 = 8/15$
8. $4/8 \times 3/5 = 3/10$
9. $1/4 \times 4/8 = 1/8$
10. $5/6 \div 1/3 = 5/2$
11. $1/2 \times 2/4 = 1/4$
12. $2/4 \div 5/7 = 7/10$
13. $1/4 \times 1/8 = 1/32$
14. $2/3 \div 6/7 = 7/9$
15. $3/5 \times 4/7 = 12/35$
16. $4/6 \times 3/8 = 1/4$
17. $1/7 \div 1/6 = 6/7$
18. $3/6 \times 4/8 = 1/4$

Answer Key (2 of 2)

Fraction Operations (continued)

Multiplying and dividing fractions (continued)

19. $1/8 \div 5/8 = 1/5$
20. $4/6 \times 3/6 = 1/3$
21. $1/3 \div 4/8 = 2/3$
22. $7/8 \times 3/5 = 21/40$
23. $2/5 \times 2/8 = 1/10$
24. $1/8 \div 3/5 = 5/24$
25. $3/6 \times 1/5 = 1/10$
26. $3/8 \div 6/7 = 7/16$
27. $1/7 \times 1/6 = 1/42$
28. $2/5 \div 3/8 = 16/15$
29. $5/6 \times 3/5 = 1/2$
30. $7/8 \div 3/7 = 49/24$
31. $5/6 \times 1/8 = 5/48$
32. $3/8 \times 3/5 = 9/40$
33. $3/6 \div 1/2 = 1$
34. $2/6 \times 5/7 = 5/21$
35. $2/8 \div 1/5 = 5/4$
36. $1/5 \times 4/8 = 1/10$
37. $2/7 \div 1/2 = 4/7$
38. $1/4 \times 4/7 = 1/7$
39. $3/5 \div 4/6 = 9/10$
40. $2/6 \times 1/8 = 1/24$
41. $1/8 \times 2/6 = 1/24$
42. $3/7 \div 2/5 = 15/14$
43. $1/4 \times 1/6 = 1/24$
44. $4/6 \div 6/8 = 8/9$

Inequalities

Inequalities

1. $7x + 11 < 4 \rightarrow x < -1$
2. $-5x + 2 > -23 \rightarrow x < 5$
3. $6x + 2 > -22 \rightarrow x > -4$
4. $-8x + 1 \geq 97 \rightarrow x \leq -12$
5. $-8x + 6 < -34 \rightarrow x > 5$
6. $3x + 6 \leq 24 \rightarrow x \leq 6$
7. $-7x + 10 \leq -53 \rightarrow x \geq 9$
8. $6x + 1 \leq -23 \rightarrow x \leq -4$
9. $2x + 9 > 77 \rightarrow x > 34$
10. $-8x + 8 \geq -80 \rightarrow x \leq 11$
11. $7x + 3 < -74 \rightarrow x < -11$
12. $-3x + 5 > -10 \rightarrow x < 5$
13. $-3x + 2 > -73 \rightarrow x < 25$
14. $8x + 6 < 54 \rightarrow x < 6$
15. $2x + 1 \geq -69 \rightarrow x \geq -35$
16. $-2x + 7 \leq 57 \rightarrow x \geq -25$

Inequalities (continued)

Inequalities (continued)

17. $9x + 8 > 35 \rightarrow x > 3$
18. $-9x + 10 \geq -44 \rightarrow x \leq 6$

Surface Area

Surface area of a box

1. $3 \times 10 \times 10 \rightarrow 2(30 + 30 + 100): 320 \text{ cm}^2$
2. $4 \times 11 \times 15 \rightarrow 2(44 + 60 + 165): 538 \text{ cm}^2$
3. $12 \times 13 \times 15 \rightarrow 2(156 + 180 + 195): 1062 \text{ cm}^2$
4. $3 \times 4 \times 6 \rightarrow 2(12 + 18 + 24): 108 \text{ cm}^2$
5. $9 \times 9 \times 10 \rightarrow 2(81 + 90 + 90): 522 \text{ cm}^2$
6. $11 \times 11 \times 12 \rightarrow 2(121 + 132 + 132): 770 \text{ cm}^2$
7. $4 \times 12 \times 13 \rightarrow 2(48 + 52 + 156): 512 \text{ cm}^2$
8. $4 \times 9 \times 9 \rightarrow 2(36 + 36 + 81): 306 \text{ cm}^2$

Mean, Median and Mode

Mean, median, mode and range

1. Mean of 34, 8, 8, 42, 33 = 25
2. Median of 25, 7, 7, 15, 21 = 15
3. Median of 4, 44, 26, 17, 44 = 26
4. Mode of 17, 41, 22, 17, 18 = 17
5. Mode of 48, 36, 43, 10, 48 = 48
6. Mode of 2, 43, 19, 19, 37 = 19
7. Mean of 47, 2, 44, 30, 47 = 34
8. Mean of 15, 15, 3, 6, 26 = 13
9. Mean of 39, 43, 33, 39, 46 = 40
10. Range of 23, 20, 13, 39, 20 = 26
11. Mode of 42, 50, 20, 31, 42 = 42
12. Mode of 49, 49, 7, 8, 42 = 49
13. Mode of 27, 15, 37, 27, 29 = 27
14. Mean of 24, 25, 31, 25, 50 = 31
15. Range of 25, 25, 9, 8, 3 = 22
16. Median of 49, 46, 26, 3, 46 = 46
17. Range of 40, 47, 3, 17, 3 = 44
18. Mean of 33, 47, 47, 14, 49 = 38

Solutions (1 of 5)

Multiplying and Dividing Integers

Multiplying and dividing integers

1. $-18 \div 2 = \underline{\quad}$

$$(-18) \div 2 = ?$$

$$18 \div 2 = 9$$

signs: $(-18) \quad 2 \rightarrow$

minus

$$(-18) \div 2 = (-9)$$

Two easy jobs, kept apart: how BIG the answer is, then which side of zero it is on. Do the size first, with the minus signs set aside.

Signs off: $18 \div 2 = 9$. Ordinary times-tables — the negatives play no part in the size.

Now the sign. One number is negative and one is positive — a single minus, with nothing to cancel it. Different signs give a MINUS.

Size 9, sign minus — so $(-18) \div 2 = (-9)$.

2. $-18 \div 3 = \underline{\quad}$

$$(-18) \div 3 = ?$$

$$18 \div 3 = 6$$

signs: $(-18) \quad 3 \rightarrow$

minus

$$(-18) \div 3 = (-6)$$

Two easy jobs, kept apart: how BIG the answer is, then which side of zero it is on. Do the size first, with the minus signs set aside.

Signs off: $18 \div 3 = 6$. Ordinary times-tables — the negatives play no part in the size.

Now the sign. One number is negative and one is positive — a single minus, with nothing to cancel it. Different signs give a MINUS.

Size 6, sign minus — so $(-18) \div 3 = (-6)$.

Percent Problems

Percent

1. **75% more than 64 =**

$$1\% \text{ of } 64 = 0.64$$

$$0.64 \times 75 = 48$$

$$64 + 48 = 112$$

Find one percent first — that is one hundredth of 64, which is 0.64.

75% is 75 of those, so multiply: $0.64 \times 75 = 48$.

"More than" means the 48 goes ON TOP of the 64, not instead of it: $64 + 48 = 112$.

Solutions (2 of 5)

Percent Problems (continued)

Percent (continued)

2. 20% more than 65 = ____

$$1\% \text{ of } 65 = 0.65$$

$$0.65 \times 20 = 13$$

$$65 + 13 = 78$$

Find one percent first — that is one hundredth of 65, which is 0.65.

20% is 20 of those, so multiply: $0.65 \times 20 = 13$.

"More than" means the 13 goes ON TOP of the 65, not instead of it: $65 + 13 = 78$.

Fraction Operations

Multiplying and dividing fractions

1. $\frac{6}{7} \times \frac{3}{6} = \text{—}$

$$\begin{array}{l} \frac{6}{7} \times \frac{3}{6} \\ \text{top: } 6 \times 3 = 18 \\ \frac{6}{7} \times \frac{3}{6} = \frac{18}{42} \\ \frac{18}{42} = \frac{3}{7} \end{array}$$

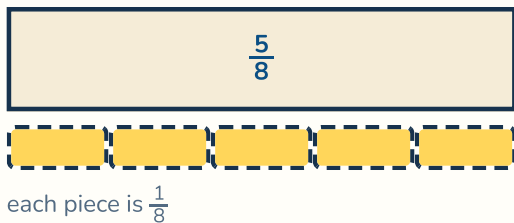
Multiplying, not adding — so no common denominator, and nothing has to be cut into matching pieces first. Tops with tops, bottoms with bottoms.

Multiply the two top numbers: $6 \times 3 = 18$.

Multiply the two bottom numbers: $7 \times 6 = 42$.

$18/42$ simplifies to $3/7$.

2. $\frac{5}{8} \div \frac{1}{8} = \text{—}$



$$\frac{1}{8} \rightarrow \frac{8}{1}$$

$$\frac{5}{8} \div \frac{1}{8} = \frac{5}{1}$$

$$\frac{5}{8} \times \frac{8}{1} = \frac{5}{1}$$

$$\frac{40}{8} = \frac{5}{1}$$

$5/8 \div 1/8$ is asking a question: how many $1/8$ s fit inside $5/8$?

Lay $1/8$ against it and see how many times it goes.

5 whole pieces fits — so $5/8 \div 1/8 = 5/1$.

Now try multiplying by $8/1$ — $1/8$ turned over. It lands on the same number.

That is all turning it over does — the two questions are the same question, so either way of writing it will do. $5/8 \div 1/8 = 5/1$.

Worked out in full: 5×8 over 8×1 is $40/8$, which simplifies to $5/1$.

Solutions (3 of 5)

Inequalities

Inequalities

1. $7x + 11 < 4$ x $\boxed{} - 1$

$$x < -1$$

An inequality comes apart exactly like an equation — the same moves, done to both sides. There is one extra rule and it arrives at the end, so start by ignoring the sign and solving for x .

11 was added last, so it comes off first — off BOTH sides: $4 - 11 = -7$.

Now divide both sides by 7: $-7 \div 7 = -1$.

Nothing was divided by a negative here, so the sign has not moved: it is still $<$. That is the one thing to check on every one of these before writing the answer down.

So $x < -1$. That is a whole RANGE of numbers rather than one, which is what makes this different from an equation — and why the sign is half the answer.

2. $-5x + 2 > -23$ x $\boxed{} 5$

$$x < 5$$

An inequality comes apart exactly like an equation — the same moves, done to both sides. There is one extra rule and it arrives at the end, so start by ignoring the sign and solving for x .

2 was added last, so it comes off first — off BOTH sides: $-23 - 2 = -25$.

Now divide both sides by -5 : $-25 \div -5 = 5$.

Here is the extra rule, and it is the only one: dividing both sides by a NEGATIVE turns the sign round, so $>$ becomes $<$. Do not take that on trust — put a number from the answer back into the question and see which way it has to face.

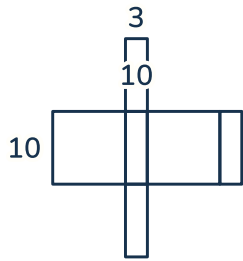
So $x < 5$. That is a whole RANGE of numbers rather than one, which is what makes this different from an equation — and why the sign is half the answer.

Solutions (4 of 5)

Surface Area

Surface area of a box

1.



_____ cm²

front and back: $2 \times 3 \times 10 = 60$

the two sides: $2 \times 10 \times 10 = 200$

top and bottom: $2 \times 3 \times 10 = 60$

total: **320**

A net lays all six faces out flat, so none of them is hidden — which is the whole reason a net is easier than the solid. They still come in three PAIRS.

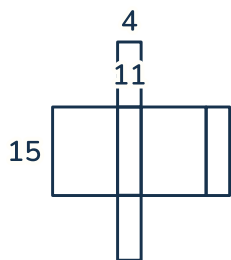
Front and back are 3 by 10, and they are identical — so that pair is $2 \times 3 \times 10 = 60$.

The two sides are 10 by 10, and they are identical — so that pair is $2 \times 10 \times 10 = 200$.

Top and bottom are 3 by 10, and they are identical — so that pair is $2 \times 3 \times 10 = 60$.

Three pairs, six faces, none missed: $60 + 200 + 60 = 320$ square cm.

2.



_____ cm²

front and back: $2 \times 4 \times 15 = 120$

the two sides: $2 \times 11 \times 15 = 330$

top and bottom: $2 \times 4 \times 11 = 88$

total: **538**

A net lays all six faces out flat, so none of them is hidden — which is the whole reason a net is easier than the solid. They still come in three PAIRS.

Front and back are 4 by 15, and they are identical — so that pair is $2 \times 4 \times 15 = 120$.

The two sides are 11 by 15, and they are identical — so that pair is $2 \times 11 \times 15 = 330$.

Top and bottom are 4 by 11, and they are identical — so that pair is $2 \times 4 \times 11 = 88$.

Three pairs, six faces, none missed: $120 + 330 + 88 = 538$ square cm.

Solutions (5 of 5)

Mean, Median and Mode

Mean, median, mode and range

1. **Mean**

34, 8, 8, 42, 33

$$\begin{array}{r} 34 \quad 8 \quad 8 \quad 42 \quad 33 \\ 34 + 8 + 8 + 42 + 33 = 125 \\ 125 \div 5 = 25 \end{array}$$

The mean is what every number WOULD be if the total were shared out evenly. So first find the total.

$$34 + 8 + 8 + 42 + 33 = 125.$$

Now share it between all 5 of them: $125 \div 5 = 25$.

2. **Median**

25, 7, 7, 15, 21

given:	25	7	7	15	21
sorted:	7	7	15	21	25

The median is the one in the MIDDLE. Middle of the sorted row, though — not the row as it was given.

So put them in order, smallest first.

Count in from both ends. 15 is the one left in the middle, so that is the median.