

Integers and Rational Numbers Review Key

SHORT ANSWER

1. $1\frac{8}{15}$

2. $-12 - 19 + 25 = -31 + 25 = -6$

The cheerleaders lost \$6 on their car wash.

3. 12.2 m

4. -3

5. \$42

6. $3116 - (-1143) = 4259$; 4259 m

7. In the second line, on the left side of the equation, Maria found the sum of +4 and -2 to be 6. The correct sum is 2. In the fifth line, Maria added 6 to the right side of the equation when she should have subtracted 6.

$$3x + 4 - 2 - x = 5x + 9 - 4x - 5$$

$$2x + 2 = x + 4$$

$$2x - x + 2 = x - x + 4$$

$$x + 2 = 4$$

$$x + 2 - 2 = 4 - 2$$

$$x = 2$$

8. Sample answer:

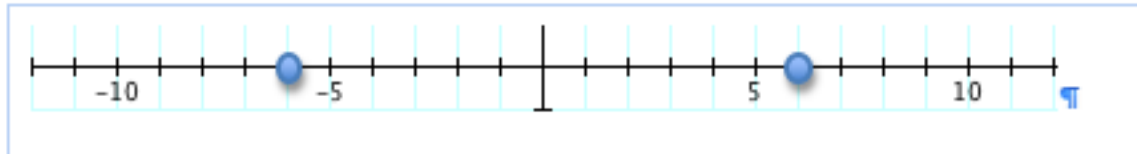
Ted's mother forgot to deposit his paycheck. Ted wrote a check and had a balance of -\$37. How much money will he need to deposit to have a balance of \$0?

He will need to deposit \$37.

9. The absolute value represents the distance from 0 on a number line. Distance cannot be negative. Both $|8|$ and $|-8|$ are 8 units from 0 on the number line.
10. The value of m can be 3 or -3. $|m|$ represents the distance from 0 on a number line. Distance can go left or right, so there are two possible values.



11. The problem asks for the negative of $|6|$, or -6. Since -6 is 6 units to the left of 0 on the number line, count 6 units to the right from 0 to find its opposite, 6.



- $3.6 + x + y$
 $= 3.6 + (-5.9) + (-3.6)$ Substitution
 $= 3.6 + (-3.6) + (-5.9)$ Commutative property of addition
 12. $= [3.6 + (-3.6)] + (-5.9)$ Associative property of addition
 $= 0 + (-5.9)$ Inverse property of addition
 $= -5.9$ Identity property of addition
 13. 0
 14. 189
 15. $\frac{16}{5}; \frac{5}{16}; -\frac{16}{5}$
 16. 7
 17. $3(8x - 2) + 7(-2x - 6)$
 $24x - 6 + (-14x) - 42$ Distributive property
 $24x - 14x - 6 - 42$ Commutative property
 $10x - 48$ Simplify.
 18. Identity Property
 19. $7\frac{1}{2}$
 20. Substitute the solution into the original equation.

$$\begin{aligned}
 -\frac{3}{4}p &= 18 \\
 -\frac{3}{4}(-24) &= 18 \\
 -\frac{3 \cdot -24}{4} &= 18 \\
 -\frac{-72}{4} &= 18 \\
 -(-18) &= 18 \\
 18 &= 18
 \end{aligned}$$

The solution is correct.

21. The product of two fractions less than 1 will be less than either original fraction.

$$\frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6} \qquad \frac{2}{3} \cdot \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

22. 20
 23. \$243.75

24. \$403.15
25. 15
26. -6
27. 4
28. -4
29. -25
30. 13
31. 16
32. 7.77
33. The negative three was not distributed correctly when multiplying $-3(x - 8)$. It should have been $(-3)(x) + (-3)(-8) = -3x + 24$.

$$7x^2 + 4x - 3(x - 8)$$

$$7x^2 + 4x - 3x + 24$$

$$7x^2 + x + 24$$

34. Distributive Property
35. Identity Property
36. Distributive Property
37. 50, 58, 62
38. $\frac{1}{5}$