Solve one- and two-step equations and inequalities

R

1 Solve the equations.

a) $p + 8 = 17$

c) $v - 7 = -2$

e) $\frac{t}{7} = 3$

$p = \boxed{}$

$v = \boxed{}$

$t = \boxed{}$

b) $y - 3 = 6$

d) $4h = 17$

f) $-35 = 5r$

$y = \boxed{}$

$h = \boxed{}$

$r = \boxed{}$

2 Work out the unknown value for each set of scales.

a)

$m = \boxed{}$

b)

$m = \boxed{}$

c)
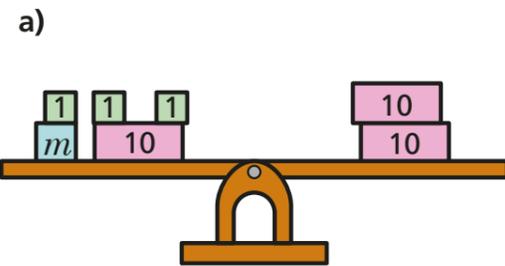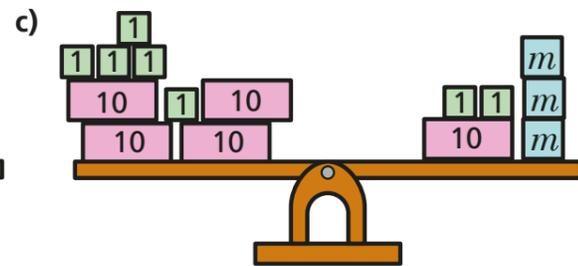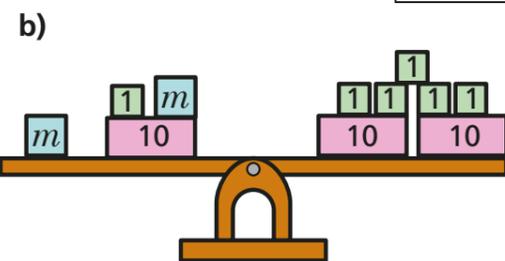
$m = \boxed{}$

3 Circle the value of m that does not satisfy the inequality.

a) $m < 4$

| 0 | 6 | −8 | 1.8 |

b) $-2 \leq m < 5$

| −2 | −1 | 2 | 5 |

c) $2m \geq -6$

| 12 | 0 | −12 | −3 |

d) $2m - 5 \leq 0$

| −5 | 2.5 | 0 | 5 |

4 Solve the inequalities.

a) $x + 6 > 2$

b) $w - 12 \leq 2$

c) $2p \geq 8$

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5 Huan has attempted to solve this equation.

$$4x - 7 = 35$$
$$-7 \qquad\qquad -7$$
$$4x = 28$$
$$\div 4 \qquad\qquad \div 4$$
$$x = 7$$
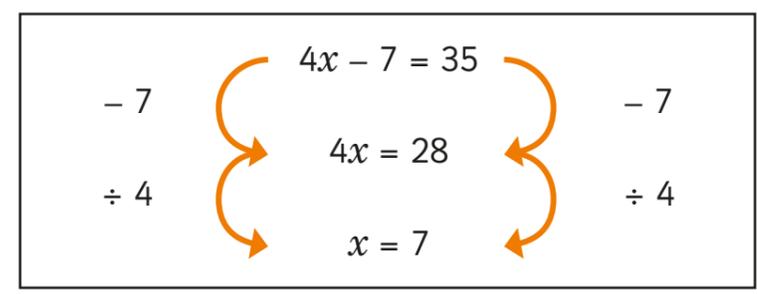
Find and correct his error.

$x = \boxed{}$

6 Solve the equations.

a) $3w + 6 = 3$

$w = \boxed{}$

d) $-4k - 2 = 10$

$k = \boxed{}$

b) $\dfrac{m}{2} - 8 = -3$

$m = \boxed{}$

e) $\dfrac{1}{3}b - 3 = 3$

$b = \boxed{}$

c) $-3 = -v + 7$

$v = \boxed{}$

f) $20 - 5n = -35$

$n = \boxed{}$

7 Filip is solving an equation.
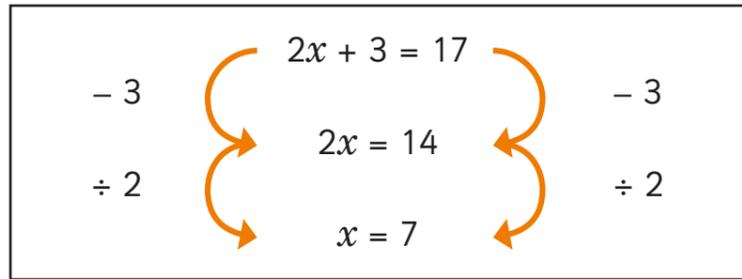
$$2x + 3 = 17$$
$- 3 \qquad\qquad\qquad - 3$
$$2x = 14$$
$\div 2 \qquad\qquad\qquad \div 2$
$$x = 7$$

Discuss how Filip can adapt this method to solve $2x + 3 < 17$

8 Solve the inequalities.

a) $5x + 2 > 27$

c) $10 < 3p - 1$

b) $3x - 9 \leq 36$

d) $12 \geq 7 + 4t$

9 Find all of the integer values that satisfy the inequalities.
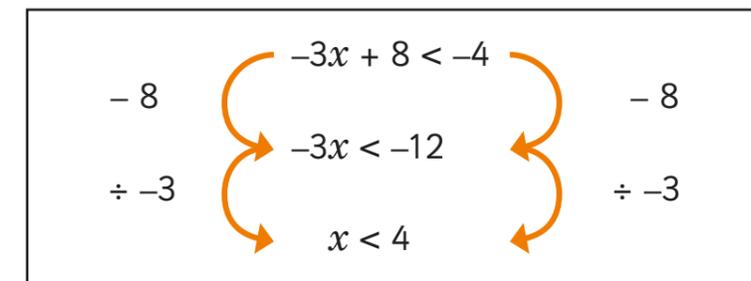
a) $-4 \leq 2k < 11$

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b) $-2 < k + 3 \leq 8.5$

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c) $-3 \leq 2k + 3 \leq 3$

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10 Esther is solving an inequality. Find and correct her mistake.

$$-3x + 8 < -4$$
$- 8 \qquad\qquad\qquad\qquad - 8$
$$-3x < -12$$
$\div -3 \qquad\qquad\qquad\qquad \div -3$
$$x < 4$$

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11 Solve the inequalities.

a) $10 - 2x > 36$

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b) $45 \leq 70 - 5y$

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