

Math Sheet

Name _____ Score _____ / 10 Teacher _____ Date _____

Multi-Step Integer Equations

Solve exactly, then round the final value to the nearest hundredth.

1. $-10 = 15 - 6(k + 26)$

6. $-16 = -6(-8 - k - 17)$

2. $-14 = -4 - p - 5p$

7. $8c + 7c = 27$

3. $-3 - g + 1 + 16 = 29$

8. $-17 + 5k = -4(3k + 10)$

4. $-10 - 8(1 - 8m) = -11$

9. $4q + 3 + 6q = 15$

5. $-7(6g + 14) = -28$

10. $-8(-11 + 7c) = -30$

Multi-Step Integer Equations

Answer Key

Solve exactly, then round the final value to the nearest hundredth.

1. $-10 = 15 - 6(k + 26)$

$$-10 = -6k - 141$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$6k - 10 = -141$$

Move variable terms by doing the same operation to both sides.

$$6k = -131$$

Move constants by doing the same operation to both sides.

$$k = -\frac{131}{6}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (k): -21.83

$$-10 = 15 - 6\left(-\frac{131}{6} + 26\right)$$

Substitute the exact value into the original equation.

2. $-14 = -4p - 5p$

$$-14 = -9p$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$9p - 14 = 0$$

Move variable terms by doing the same operation to both sides.

$$9p = 14$$

Move constants by doing the same operation to both sides.

$$p = \frac{14}{9}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (p): 1.56

$$-14 = -4 \times \frac{14}{9} - 5 \times \frac{14}{9}$$

Substitute the exact value into the original equation.

3. $-3g + 1 + 16 = 29$

$$-3g + 17 = 29$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$-3g = 12$$

Move constants by doing the same operation to both sides.

$$g = -4$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (g): -4.00

$$-3 \times (-4) + 1 + 16 = 29$$

Substitute the exact value into the original equation.

Multi-Step Integer Equations

Answer Key

Solve exactly, then round the final value to the nearest hundredth.

4. $-10 - 8(1 - 8m) = -11$

$$64m - 18 = -11$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$64m = 7$$

Move constants by doing the same operation to both sides.

$$m = \frac{7}{64}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (m): 0.11

$$-10 - 8\left(1 - 8 \times \frac{7}{64}\right) = -11$$

Substitute the exact value into the original equation.

5. $-7(6g + 14) = -28$

$$-42g - 98 = -28$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$-42g = 70$$

Move constants by doing the same operation to both sides.

$$g = -\frac{5}{3}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (g): -1.67

$$-7\left(6 \times \left(-\frac{5}{3}\right) + 14\right) = -28$$

Substitute the exact value into the original equation.

6. $-16 = -6(-8k - 17)$

$$-16 = 48k + 102$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$-48k - 16 = 102$$

Move variable terms by doing the same operation to both sides.

$$-48k = 118$$

Move constants by doing the same operation to both sides.

$$k = -\frac{59}{24}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (k): -2.46

$$-16 = -6\left(-8 \times \left(-\frac{59}{24}\right) - 17\right)$$

Substitute the exact value into the original equation.

7. $8c + 7c = 27$

$$15c = 27$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$c = \frac{9}{5}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (c): 1.80

$$8 \times \frac{9}{5} + 7 \times \frac{9}{5} = 27$$

Substitute the exact value into the original equation.

Multi-Step Integer Equations

Answer Key

Solve exactly, then round the final value to the nearest hundredth.

8. $-17 + 5k = -4 (3k + 10)$

$$5k - 17 = -12k - 40$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$17k - 17 = -40$$

Move variable terms by doing the same operation to both sides.

$$17k = -23$$

Move constants by doing the same operation to both sides.

$$k = -\frac{23}{17}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (k): -1.35

$$-17 + 5 \times \left(-\frac{23}{17}\right) = -4 \left(3 \times \left(-\frac{23}{17}\right) + 10\right)$$

Substitute the exact value into the original equation.

9. $4q + 3 + 6q = 15$

$$10q + 3 = 15$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$10q = 12$$

Move constants by doing the same operation to both sides.

$$q = \frac{6}{5}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (q): 1.20

$$4 \times \frac{6}{5} + 3 + 6 \times \frac{6}{5} = 15$$

Substitute the exact value into the original equation.

10. $-8 (-11 + 7c) = -30$

$$-56c + 88 = -30$$

Rewrite each side in equivalent affine form, distributing and collecting when needed.

$$-56c = -118$$

Move constants by doing the same operation to both sides.

$$c = \frac{59}{28}$$

Exact value. Divide both sides by the nonzero coefficient.

Rounded value (c): 2.11

$$-8 \left(-11 + 7 \times \frac{59}{28}\right) = -30$$

Substitute the exact value into the original equation.