

## Solving Linear Equations and Solving Proportions

**Solve each equation.**

1)  $-115 = 5(1 + 3p)$

2)  $8(x - 4) = -96$

3)  $-8(4 + x) = -88$

4)  $-204 = -3(4 - 8p)$

5)  $8\left(r + \frac{3}{2}\right) + 6 = 81$

6)  $\frac{609}{4} = -\frac{29}{7}\left(-\frac{17}{2}n + \frac{3}{2}\right)$

$$7) \frac{23}{4} \left( \frac{23}{8}k - \frac{9}{4} \right) = \frac{736}{7}$$

$$8) 2n - \frac{7}{2} \left( \frac{26}{7}n + 2 \right) = -\frac{559}{6}$$

$$9) 5(1 + 8x) = -32 + 3x$$

$$10) -15 + 7x = -4(3 - 2x)$$

$$11) 3(-6n + 4) = -22 - n$$

$$12) 2 - 3(2 - 5n) = 36 + 7n$$

$$13) -2x + 6(-4 - 5x) = -2x - 6(6x - 5)$$

$$14) -8(8 + 2r) = -6(-8 - 2r)$$

$$15) -8(3 - 4n) - 4 = -7(6 - 6n) - 8n$$

$$16) -5(-7 - 3v) - 2v = 5(5 + 2v) + v$$

**Solve each proportion.**

$$17) \frac{6}{7} = \frac{x}{2}$$

$$18) \frac{4}{10} = \frac{7}{k}$$

$$19) \frac{3}{10} = \frac{x-1}{8}$$

$$20) \frac{n+9}{8} = \frac{9}{2}$$

$$21) \frac{3}{4} = \frac{6}{n-7}$$

$$22) \frac{6}{2} = \frac{x+9}{5}$$

$$23) \frac{5}{9} = \frac{v}{v-1}$$

$$24) \frac{8}{x} = \frac{9}{x+2}$$

$$25) \frac{m+2}{2} = \frac{m}{10}$$

$$26) \frac{x+3}{6} = \frac{x}{3}$$

$$27) \frac{5}{n-8} = \frac{6}{n+5}$$

$$28) \frac{x-8}{x-10} = \frac{6}{8}$$

$$29) \frac{n-4}{n+8} = \frac{10}{5}$$

$$30) \frac{k+8}{4} = \frac{k+5}{10}$$

## Answers to Solving Linear Equations and Solving Proportions

- |                                  |                                 |                                  |                                  |
|----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| 1) $\{-8\}$                      | 2) $\{-8\}$                     | 3) $\{7\}$                       | 4) $\{-8\}$                      |
| 5) $\left\{\frac{63}{8}\right\}$ | 6) $\left\{\frac{9}{2}\right\}$ | 7) $\left\{\frac{50}{7}\right\}$ | 8) $\left\{\frac{47}{6}\right\}$ |
| 9) $\{-1\}$                      | 10) $\{-3\}$                    | 11) $\{2\}$                      | 12) $\{5\}$                      |
| 13) $\{9\}$                      | 14) $\{-4\}$                    | 15) $\{7\}$                      | 16) $\{-5\}$                     |
| 17) $\{1.71\}$                   | 18) $\{17.5\}$                  | 19) $\{3.4\}$                    | 20) $\{27\}$                     |
| 21) $\{15\}$                     | 22) $\{6\}$                     | 23) $\{-1.25\}$                  | 24) $\{16\}$                     |
| 25) $\{-2.5\}$                   | 26) $\{3\}$                     | 27) $\{73\}$                     | 28) $\{2\}$                      |
| 29) $\{-20\}$                    | 30) $\{-10\}$                   |                                  |                                  |