1.

Simplify:

a. $\sqrt{4}$ = **b.** $\sqrt{27}$ = **c.** $\sqrt{72}$ = **d.** $\sqrt{32}$ =

e. $\sqrt{98}$ = **f.** $\sqrt{200}$ = **g.** $\sqrt{20}$ = **h.** $\sqrt{24}$ =

2.

Simplify:

a. $5\sqrt{18}$ = **b.** $\sqrt{4+9}$ = **c.** $\sqrt{3^2+4^2}$ =

d. $\sqrt{5^2+12^2}$ = **e.** $\frac{1}{6}\sqrt{48}$ = **f.** $\sqrt{49 \cdot 3}$ =

3.

Simplify:

a. $\frac{1}{\sqrt{2}} =$

b. $\frac{1}{\sqrt{5}} =$

c. $\frac{4}{\sqrt{2}} =$

d. $\frac{6}{\sqrt{3}} =$

4.

Simplify:

a. $4\sqrt{3} + 7\sqrt{3} =$

b. $7\sqrt{2} + \sqrt{3} + 6\sqrt{3} + \sqrt{2} =$

c. $\sqrt{12} + \sqrt{27} =$

d. $\sqrt{72} + \sqrt{75} - \sqrt{48} =$

5.

Solve for x:

a. $x^2 = 25$ **b.** $x^2 = 144$ **c.** $x^2 = 169$

d. $x^2 = \frac{1}{4}$ **e.** $x^2 = 12$ **f.** $x^2 = 18$

6.

Solve for x:

a. $x^2 + 16 = 25$ **b.** $x^2 + 6^2 = 100$ **c.** $12^2 + x^2 = 13^2$

d. $x^2 + (3\sqrt{3})^2 = 36$ **e.** $(\sqrt{5})^2 + (\sqrt{11})^2 = x^2$ **f.** $x^2 = (5\sqrt{3})^2 + (\sqrt{5})^2$

7.

Solve for x:

a. $x^2 - 5x - 6 = 0$

b. $x^2 + 4x - 12 = 0$

c. $x^2 - 8x + 15 = 0$

d. $x^2 - 18 - 3x = 0$

e. $x^2 - 36 = 9x$

f. $-x^2 + 5x + 36 = 0$

8.

Solve for x:

a. $x^2 - 4x = 0$

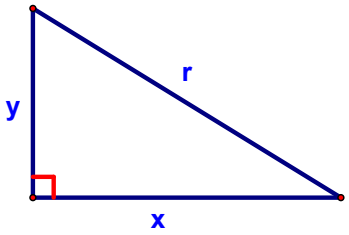
b. $x^2 = 10x$

c. $x^2 - 2x = 11x$

d. $5x = x^2 - 3x$

9.

In the given figure, $x^2 + y^2 = r^2$.



a. Find x if y = 21 and r = 29.

b. Find y, in simplified radial form, if x = 2 and r = 4.

c. Find r to the nearest tenth if x = 4.1 and y = 7.1.

10.

Solve for x:

a. $3x^2 + 5x - 7 = x^2 + 8x + 28$

b. $12x^2 - 15 = -11x$

c. $8x^2 - 7x + 9 = 2x^2 + 6x + 7$

11.

Solve for x:

$$\frac{7}{x+1} = \frac{2x+4}{3x-3}$$