Solve the equation

1. $20 = -d + 9$ $d = -11$

2. $10 = \dfrac{11 + z}{-6}$ $z = -71$

Solve the equation

3. $55 - 16 + 8w = 55$ $w = 2$

4. $\dfrac{3p}{8} + 23 = 11$ $p = -32$

5. Find a solution to the following system of equations.

$3x + 4y = -5$

$-2x + y = 7$

$(x, y) \rightarrow (-3, 1)$

6. Find a solution to the following system of equations.

$y = 2x - 7$

$y = 3x - 8$

$(x, y) \rightarrow (1, -5)$

7. Solve for y.
$16x + 2y = 10$

$y = -8x + 5$

8. Solve for y.
$16x - 6y = -30$

$y = \frac{16}{6}x + 5$

$y = \frac{8}{3}x + 5$

Simplify the radical expression.

9. $4\sqrt{12}$ $8\sqrt{3}$

10. $\sqrt{\frac{22}{25}}$ $\frac{\sqrt{22}}{5}$

Simplify the radical expression

11. $\frac{4\sqrt{500}}{\sqrt{1100}}$ $\frac{4\sqrt{55}}{11}$

12. $\frac{5}{\sqrt{6}}$ $\frac{5\sqrt{6}}{6}$

Use the quadratic formula to solve the equation. Leave answers in simplified radical form.

13. $-2y^2 - 9y = -11$

$-2y^2 - 9y + 11 = 0$

$a = -2$

$b = -9$

$c = 11$

$\frac{9 \pm \sqrt{169}}{-4} = \frac{9 \pm 13}{-4}$ → $x = \frac{-11}{2} = -5.5$; ↘ $x = 1$

Write an equation in slope intercept form for the line through the given point with the given slope.

14. $(5, -6); m = \frac{5}{2}$

$y + 6 = \frac{5}{2}(x - 5)$

$y + 6 = \frac{5}{2}x - \frac{25}{2}$

$-6 \quad\quad -6$

$y = \frac{5}{2}x - \frac{37}{2}$

15. Determine the value of the variable V. $V = \frac{Bh}{3}$; $B = 36$ in.^{2} and $h = 14$ in.

$V = \frac{(36)(14)}{3} = 14 in^3$

16. Determine the value of the variable x.

$y = 5z + 4x$; $y = 2$, and $z = 10$.

$2 = 5(10) + 4x$

$2 = 50 + 4x$

$-48 = 4x$

$x = -12$

17.

Write an equation in slope intercept form for the line through the given point with the given slope.

$(5, -6); m = \frac{5}{2}$