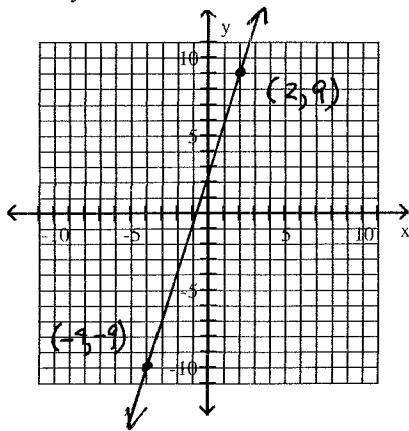


Graph the linear equation.

4) $3x - y = -3$



LET $y = -9$

$3x - (-9) = -3$

$3x + 9 = -3$

$3x = -12$

$x = -4$

$(-9, -9)$

LET $y = 9$

$3x - (9) = -3$

$3x = 6$

$x = 2$

$(2, 9)$

Find the slope of the line through the pair of points.

5) $(7, 2)$ and $(-1, 6)$

pt #1 pt #2
 SLOPE = $\frac{y_2 - y_1}{x_2 - x_1}$

$\frac{6 - 2}{-1 - 7} = \frac{4}{-8} = \boxed{-\frac{1}{2}}$

Find the slope of the line.

6) $2x + 4y = 14$

$4y = -2x + 14$

$y = -\frac{2}{4}x + \frac{14}{4}$

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

SLOPE = $\boxed{-\frac{1}{2}}$

Write the equation of the line with the given slope and y -intercept.

7) slope $\frac{7}{2}$;

y-intercept (0, -4)

$$m = \frac{y - y_1}{x - x_1}$$

$$\frac{7}{2} = \frac{y - (-4)}{x - 0}$$

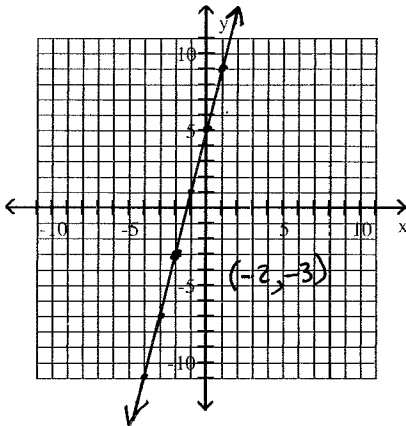
$$\frac{7}{2} = \frac{y + 4}{x}$$

$$\frac{7}{2}x = y + 4$$

$$y = \frac{7}{2}x - 4$$

Graph the line through the given point with the given slope.

8) (-2, -3), m = 4



Find the square root.

9) $-\sqrt{\frac{400}{169}}$

$$-\frac{\sqrt{400}}{\sqrt{169}} = \boxed{-\frac{20}{13}}$$

Find the root.

10) $\sqrt[3]{-343}$

VIA CALCULATOR: $\boxed{-7}$

CHECK: $-7 \cdot -7 \cdot -7 = 49 \cdot -7 = -343$

Simplify the radical.

11) $\sqrt{396}$

$$= \sqrt{4} \cdot \sqrt{99} = \sqrt{4} \sqrt{9} \sqrt{11}$$

$$= 2 \cdot 3 \sqrt{11}$$

$$= \boxed{6\sqrt{11}}$$

Simplify the radical. Assume that all variables represent nonnegative real numbers.

12) $\sqrt{169m^7n^{10}}$

$$\sqrt{169m^6n^{10}} \sqrt{m}$$

$$\boxed{13m^3n^5\sqrt{m}}$$

Simplify and add or subtract wherever possible.

13) $10\sqrt{32} + 10\sqrt{162} + 2\sqrt{128}$

$$10\sqrt{16}\sqrt{2} + 10\sqrt{81}\sqrt{2} + 2\sqrt{64}\sqrt{2}$$

$$10 \cdot 4\sqrt{2} + 10 \cdot 9\sqrt{2} + 2 \cdot 8\sqrt{2}$$

$$40\sqrt{2} + 90\sqrt{2} + 16\sqrt{2}$$

$$\boxed{146\sqrt{2}}$$

Perform the indicated operation. Assume that all variables represent nonnegative real numbers.

14) $\sqrt{2x} + 8\sqrt{8x} + 8\sqrt{32x}$

$$\sqrt{2x} + 8\sqrt{4}\sqrt{2x} + 8\sqrt{16}\sqrt{2x}$$

$$1\sqrt{2x} + 8 \cdot 2\sqrt{2x} + 8 \cdot 4\sqrt{2x}$$

$$1\sqrt{2x} + 16\sqrt{2x} + 32\sqrt{2x}$$

$$\boxed{49\sqrt{2x}}$$

Rationalize the denominator.

15) $\sqrt{\frac{2}{11}}$

$$\frac{\sqrt{2}}{\sqrt{11}} \cdot \frac{\sqrt{11}}{\sqrt{11}}$$

$$\boxed{\frac{\sqrt{22}}{11}}$$

$$16) \frac{9}{\sqrt{80}} = \frac{9}{\sqrt{16} \sqrt{5}} = \frac{9}{4\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{9\sqrt{5}}{4 \cdot 5} = \boxed{\frac{9\sqrt{5}}{20}}$$

Simplify the expression.

$$17) (7\sqrt{3} + 10\sqrt{2})(8\sqrt{3} + 4\sqrt{2})$$

$$7\sqrt{3} \cdot 8\sqrt{3} + 7\sqrt{3} \cdot 4\sqrt{2} + 10\sqrt{2} \cdot 8\sqrt{3} + 10\sqrt{2} \cdot 4\sqrt{2}$$

$$7 \cdot 8 \cdot 3 + 7 \cdot 4 \sqrt{6} + 10 \cdot 8 \sqrt{6} + 10 \cdot 4 \cdot 2$$

$$168 + 28\sqrt{6} + 80\sqrt{6} + 80$$

$$\boxed{248 + 108\sqrt{6}}$$

Write the quotient in lowest terms.

$$18) \frac{48 - 42\sqrt{242}}{42}$$

$$\frac{6 \cdot 8 - 6 \cdot 7\sqrt{242}}{6 \cdot 7}$$

$$\frac{6(8 - 7\sqrt{242})}{6 \cdot 7}$$

$$\frac{8 - 7\sqrt{242}}{7}$$

$$\frac{8 - 7\sqrt{121} \sqrt{2}}{7}$$

$$\frac{8 - 7 \cdot 11 \sqrt{2}}{7}$$

$$\boxed{\frac{8 - 77\sqrt{2}}{7}}$$