Geometry H Name : _____

Extra Algebra Skills Practice Problems

Write the slope-intercept form of the equation of the line through the given points.

1.) $A(-4,0)$ and $B(1,5)$

2.) $J(-4,-2)$ and $K(-3,5)$

3.) $S(5,4)$ and $T(-4,3)$

4.) $X(-4,2)$ and $T(0,-5)$

Solve the linear system of equations using any method you choose.

5.) $\begin{aligned} -4x-2y&=-12 \\ 4x+8y&=-24 \end{aligned}$

6.) $\begin{aligned} 8x+y&=-16 \\ -3x+y&=-5 \end{aligned}$

7.) $\begin{aligned} -3x+7y&=-16 \\ -9x+5y&=16 \end{aligned}$

8.) $\begin{aligned} 5x+4y&=-30 \\ 3x-9y&=-18 \end{aligned}$

Solve the proportion.

9.) $\frac{9}{6} = \frac{x}{10}$

10.) $\frac{7}{b+5} = \frac{10}{5}$

11.) $\frac{4}{n+2} = \frac{7}{n}$

12.) $\frac{5}{r-9} = \frac{8}{r+5}$

Solve using the quadratic formula.

13.) $r^2 - 5r - 14 = 0$

14.) $4b^2 + 8b + 3 = 0$

15.) $2x^2 - 3x - 5 = 0$

16.) $2m^2 - 7m - 3 = 0$

Simplify the radical expression (leave answer in radical form).

17.) $\sqrt{75}$

18.) $\sqrt{50}$

19.) $\sqrt{80}$

20.) $\sqrt{45}$

21.) $\sqrt{108}$

22.) $\sqrt{18}$

Answers :

1.) $y = x + 4$

2.) $y = 7x + 26$

3.) $y = \frac{1}{9}x + \frac{31}{9}$

4.) $y = -\frac{7}{4}x - 5$

5.) $(6, -6)$

6.) $(-1, -8)$

7.) $(-4, -4)$

8.) $(-6, 0)$

9.) $x = 15$

10.) $b = -1\frac{1}{2}$

11.) $n = -4\frac{2}{3}$

12.) $r = 32\frac{1}{3}$

13.) $\{7, -2\}$

14.) $\left\{-\frac{1}{2}, -\frac{3}{2}\right\}$

15.) $\left\{\frac{5}{2}, -1\right\}$

16.) $\left\{\frac{7+\sqrt{73}}{4}, \frac{7-\sqrt{73}}{4}\right\}$

17.) $5\sqrt{3}$

18.) $5\sqrt{2}$

19.) $4\sqrt{5}$

20.) $3\sqrt{5}$

21.) $6\sqrt{3}$

22.) $3\sqrt{2}$