

Bellwork

1. Write a one-variable equation and give to your partner to solve.
2. Write a proportion with a variable on each fraction. Then give it to your partner to solve.

$$\frac{x+3}{8} = \frac{x+1}{3}$$

$$\begin{aligned}
 8(x+1) &= 3(x+3) \\
 8x+8 &= 3x+9 \\
 -3x & \quad -3x \\
 5x+8 &= 9 \quad 5x=1 \\
 -8 & \quad -8 \quad 15 \quad 5
 \end{aligned}$$

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Plot the points $(1,2)$ and $(4,-4)$.
 Draw the line that contains the two points.

slope: $\frac{y_2 - y_1}{x_2 - x_1} = \frac{-4 - 2}{4 - 1} = \frac{-6}{3} = -2$

y-intercept: $(0,4)$
 x-intercept: $(2,0)$

equation in slope-intercept form:
 $y = -2x + 4$

intersection with the line defined by the equation $y = \frac{4}{3}x - 6$:
 $(3, -2)$

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Plot the points $(-2,2)$ and $(6,-2)$.
 Draw the line that contains the two points.

slope: $-\frac{1}{2}$

y-intercept: $(0,1)$
 x-intercept: $(2,0)$

equation in slope-intercept form:
 $y = -\frac{1}{2}x + 1$

intersection with the line defined by the equation $y = \frac{1}{4}x - 2$:
 $(4, -1)$

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Review

1. $\sqrt{75}$ $5\sqrt{3}$
 $3 \cdot 25$
 $(5 \cdot 5)$

2. $\sqrt{72}$ $6\sqrt{2}$
 $9 \cdot 8$
 $(3 \cdot 3) (2 \cdot 2 \cdot 2)$

3. $4\sqrt{32}$ $16\sqrt{2}$

4. $-3\sqrt{48}$ $-12\sqrt{3}$
 $3 \cdot 16$
 $(2 \cdot 2 \cdot 2) (2 \cdot 2 \cdot 2)$

5. $10\sqrt{256}$
 $10 \cdot 16$
 160

6. $5\sqrt{8} + 3\sqrt{98}$
 $10\sqrt{2} + 21\sqrt{2}$
 $31\sqrt{2}$

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Conclusion

1. What is the slope formula? $\frac{y-y}{x-x}$
2. Where is the x-intercept located? x-axis
3. Where is the y-intercept located? y-axis
4. Rate yourself on simplifying radicals. A 1 is poor to a 5 excellent. Hold up your number in front of you when asked.

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Assignment
Algebra Review Worksheet #2

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