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Cluster 4:

Solve for all possible values of x.

1.  $\frac{2}{x+5} = \frac{3}{4x}$

2.  $x(2x + 16) = 0$

Cluster 5:

Graph the inequality and shade appropriately.

3.  $y > -\frac{2}{3}x + 7$

Solve for all possible values of x.

1.  $\frac{2}{x+5} = \frac{3}{4x}$

$$2(4x) = 3(x+5)$$

$$\begin{array}{r} 8x = 3x + 15 \\ -3x \quad -3x \\ \hline \end{array}$$

$$\frac{5x = 15}{5 \quad 5}$$

$$x = 3$$

2.  $x(2x + 16) = 0$

$x = 0$

$$2x + 16 = 0$$

$$\begin{array}{r} -16 \quad -16 \\ \hline 2x = -16 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline \end{array}$$

$$x = -8$$

$$x = -8 \text{ or } 0$$

Graph the inequality and shade appropriately.

3.  $y > -\frac{2}{3}x + 7$

slope

y-intercept

$$\frac{\downarrow 2}{\rightarrow 3}$$

Dotted line  
because  $>$

Test  $(0,0)$

$$0 > -\frac{2}{3}(0) + 7$$

$$0 > 0 + 7$$

$$0 > 7$$

False

x	y
-6	11
-3	9
0	7
3	5
6	3

