

1, 7, 6, 3, 5

1.  $140$   
 $\wedge$   
 $14 \quad 10$   
 $\wedge \quad \wedge$   
 $2 \quad 7 \quad 2 \quad 5$   $2^2 \cdot 5 \cdot 7$

3.  $89$  prime

5.  $441$   
 $3 \wedge 147$   $3^2 \cdot 7^2$   
 $\wedge$   
 $49 \quad 3$   
 $\wedge$   
 $7 \quad 7$

7.  $2548$   
 $\wedge$   
 $4 \quad 637$   $2^2 \cdot 7^2 \cdot 13$   
 $\wedge \quad \wedge$   
 $2 \quad 2 \quad 7 \quad 91$   
 $\wedge$   
 $7 \quad 13$

8.  $3861$   
 $\wedge$   
 $9 \quad 429$   $3^3 \cdot 11 \cdot 13$   
 $\wedge \quad \wedge$   
 $3 \quad 3 \quad 3 \quad 143$   
 $\wedge$   
 $11 \quad 13$

# HW Assessment

2. 198 find prime factorization

Quiz Corrections

$$\begin{array}{l}
 1. \quad \begin{array}{l} (2x - 7y = 10)(-5) \\ (5x - 6y = 2)(2) \end{array} \\
 \begin{array}{r} -10x + 35y = -50 \\ + 10x - 12y = 4 \\ \hline 23y = 46 \\ \frac{23y}{23} = \frac{46}{23} \\ y = 2 \end{array} \\
 \begin{array}{r} 2x - 7(-2) = 10 \\ 2x + 14 = 10 \\ \quad -14 \\ \hline 2x = -4 \\ \frac{2x}{2} = \frac{-4}{2} \\ x = -2 \end{array} \\
 \boxed{(-2, 2)}
 \end{array}$$

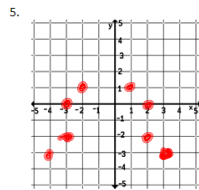
$$\begin{array}{l}
 2. \quad \begin{array}{l} y = \frac{1}{3}x + 5 \\ y = 6x - 13 \end{array} \\
 \left(\frac{1}{3}x + 5 = 6x - 13\right) 3 \\
 x + 15 = 18x - 39 \\
 x = \frac{54}{17} \quad \frac{54}{17} = 17x \\
 y = 6\left(\frac{54}{17}\right) - 13 = \frac{103}{17} \\
 \boxed{\left(\frac{54}{17}, \frac{103}{17}\right)}
 \end{array}$$

$$\begin{array}{l}
 3. \quad \begin{array}{l} 6x = 4y + 5 \\ 6y = 9x - 5 \end{array} \\
 \begin{array}{r} -4y \\ 6x - 4y = 5 \\ (-9x + 6y = -5) 2 \\ \hline 18x - 12y = 15 \\ + -18x + 12y = -10 \\ \hline 0 = 5 \end{array} \\
 \boxed{\text{No Solution}}
 \end{array}$$

4. Given the function  $f(x) = \frac{4x - 3}{x^2 + 6}$  find  $f(-1)$  and  $f(0)$

$$f(-1) = \frac{4(-1) - 3}{(-1)^2 + 6} = \frac{-4 - 3}{1 + 6} = \frac{-7}{7} = -1$$

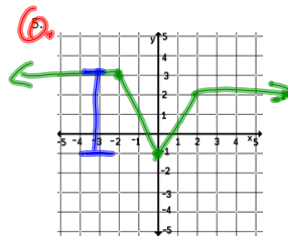
$$f(0) = \frac{-3}{6} = -\frac{1}{2}$$



Domain:  
 $x: \{-4, -3, -2, 1, 2, 3\}$

Range:  
 $y: \{-3, -2, 0, 1\}$

Not a function



Domain:  $x: \mathbb{R}$

Range:  $-1 \leq y \leq 3$

It is a function!

7. Find the domain of the function  $f(x) = \frac{x^2 - 7x}{18 + x}$

$$D: x \neq -18$$

8. Find the domain of the function  $g(x) = 2x - 5$

$$D: \mathbb{R}$$

9. Let  $f(x) = x^2 - 1$  and  $g(x) = 1 - 2x$ . Find  $f(g(-1))$  and  $g(3f(2))$ .

$$f(g(-1)) \quad g(-1) = 1 - 2(-1) = 1 + 2 = 3$$

$$f(3) = 3^2 - 1 = 9 - 1 = 8$$

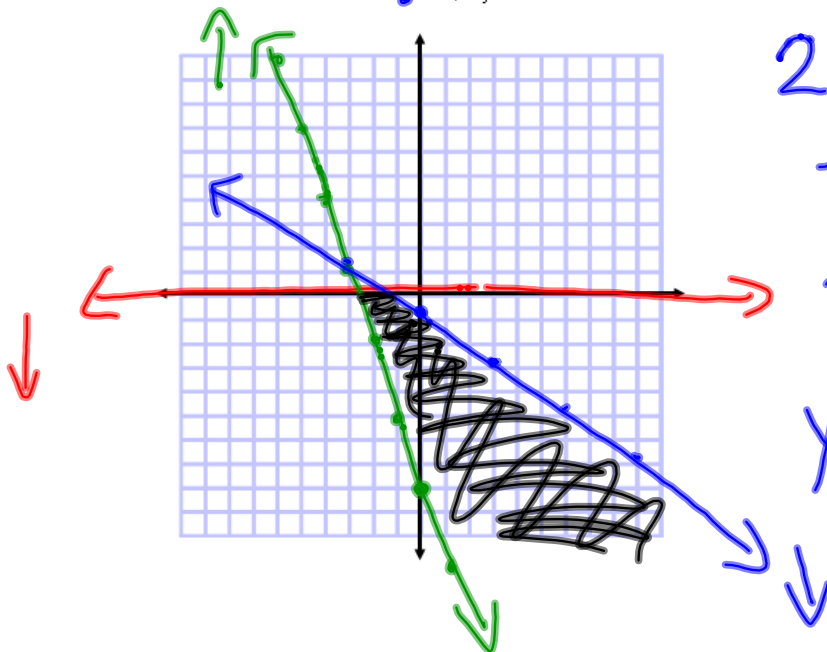
$$\boxed{f(g(-1)) = 8}$$

$$g(3f(2)) \quad f(2) = 2^2 - 1 = 3$$

$$g(3 \cdot 3) = g(9) = 1 - 2 \cdot 9 = -17$$

$$\boxed{g(3f(2)) = -17}$$

10. Graph the system of inequalities:
- $y \leq 0$
  - $y \geq -3x - 8$
  - $2x + 3y \leq -2$



$$2x + 3y \leq -2$$

$$-2x$$

$$\frac{3y}{3} \leq \frac{-2x - 2}{3}$$

$$y \leq -\frac{2}{3}x - \frac{2}{3}$$