

2.1 - 2.3 Quiz Review Solution Guide

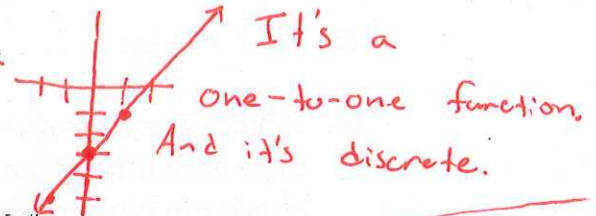
1. State the domain and range of the relation $\{(-3, 2), (4, 1), (0, 3), (5, -2), (2, 7)\}$. Then determine whether the relation is a function. (Lesson 2-1)

Domain: $\{-3, 0, 2, 4, 5\}$

Range: $\{-2, 1, 2, 3, 7\}$

Yes, it's a function

2. Graph $y = 2x - 3$ and determine whether the equation is a function, is one-to-one, ~~onto~~, ~~both~~, or ~~neither~~. State whether it is discrete or continuous. (Lesson 2-1)



Given $f(x) = 3x^3 - 2x + 7$, find each value. (Lesson 2-1)

3. $f(-2) = -13$ 4. $f(2y) = 24y^3 - 4y + 7$ 5. $f(1.4) = 12.432$

6. State whether $f(x) = 2x^2 - 9$ is a linear function. Explain. (Lesson 2-2)

No, variables can't have an exponent other than "1"

7. **MULTIPLE CHOICE** The daily pricing for renting a mid-sized car is given by the function $f(x) = 0.35x + 49$, where $f(x)$ is the total rental price for a car driven x miles. Find the rental cost for a car driven 250 miles. (Lesson 2-2)

A \$84

B \$112.50

C \$136.50

D \$215

$$f(250) = .35(250) + 49$$

$$f(250) = 87.5 + 49$$

$$f(250) = 136.5$$

$$\textcircled{3} f(-2) = 3(-2)^3 - 2(-2) + 7$$

$$f(-2) = 3(-8) + 4 + 7$$

$$f(-2) = -24 + 4 + 7$$

$$f(-2) = -20 + 7$$

$$f(-2) = -13$$

$$\textcircled{4} f(2y) = 3(2y)^3 - 2(2y) + 7$$

$$f(2y) = 3(8y^3) - 4y + 7$$

$$f(2y) = 24y^3 - 4y + 7$$

$$\textcircled{5} f(1.4) = 3(1.4)^3 - 2(1.4) + 7$$

$$f(1.4) = 3(2.744) - 2.8 + 7$$

$$f(1.4) = 8.232 - 2.8 + 7$$

$$f(1.4) = 5.432 + 7$$

$$f(1.4) = 12.432$$

Write each equation in standard form. Identify A, B, and C. (Lesson 2-2)

8. $y = -6x + 5$

9. $y = 10x$

10. $\frac{5}{8}x = 2y + 11$

11. $0.5x = 3$

$$\textcircled{8} y = -6x + 5$$

$$+6x \quad +6x$$

$$6x + y = 5$$

$$A = 6$$

$$B = 1$$

$$C = 5$$

$$\textcircled{9} y = 10x$$

$$-10x \quad -10x$$

$$-10x + y = 0$$

$$10x - y = 0$$

$$A = 10$$

$$B = -1$$

$$C = 0$$

$$\textcircled{10} -\frac{5}{8}x = 2y + 11$$

$$-2y \quad -2y$$

$$-\frac{5}{8}x - 2y = 11$$

$$5x + 16y = -88$$

$$A = 5$$

$$B = 16$$

$$C = -88$$

$$\textcircled{11} \left(.5x = 3 \right)$$

$$x = 6$$

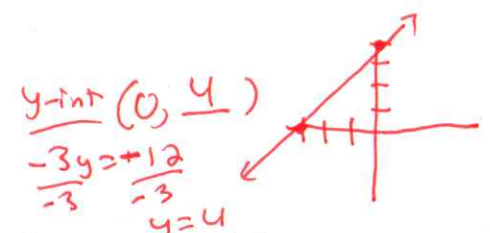
$$x + 0y = 6$$

$$A = 1$$

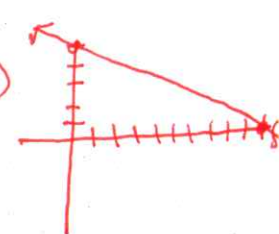
$$B = 0$$

$$C = 6$$

(12) $4x - 3y + 12 = 0$
 $4x - 3y = -12$
 x-int $(-3, 0)$
 y-int $(0, 4)$



(13) $10 - x = 2y$
 $10 - x - 2y = 0$
 $-x - 2y = -10$
 $x + 2y = 10$
 x-int $(10, 0)$
 y-int $(0, 5)$



$\frac{4x}{4} = \frac{-12}{4}$
 $x = -3$

Find the x-intercept and the y-intercept of the graph of each equation. Then graph the equation using the intercepts. (Lesson 2-2)

12. $4x - 3y + 12 = 0$

13. $10 - x = 2y$

14. **SPEED** The table shows the distance traveled by a car after each time given in minutes. Find the rate of change in distance for the car. (Lesson 2-3)

Time (min)	Distance (mi)
15	20
30	40
45	60
60	80
75	100

$\frac{\text{Chg. } y}{\text{Chg. } x} = \frac{20}{15} = \frac{4}{3}$

$R.O.C = \frac{4}{3}$

Find the slope of the line that passes through each pair of points. Express as a fraction in simplest form. (Lesson 2-3)

15. $(-2, 6), (1, 15)$

16. $(3, 5), (7, 15)$

17. $(4, 8), (4, -3)$

18. $(-2.5, 4), (1.5, -2)$

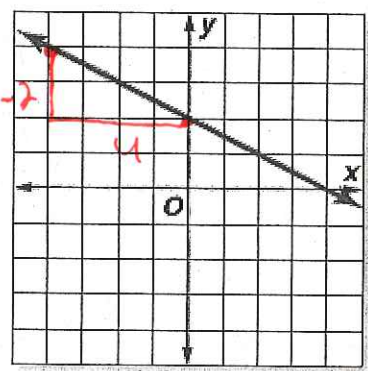
(15) $\frac{15 - 6}{1 - (-2)} = \frac{9}{3} = \boxed{3}$

(16) $\frac{15 - 5}{7 - 3} = \frac{10}{4} = \boxed{\frac{5}{2}}$

(17) $\frac{-3 - 8}{4 - 4} = \frac{-11}{0} = \text{undefined}$

(18) $\frac{-2 - 4}{1.5 - (-2.5)} = \frac{-6}{4} = \boxed{-\frac{3}{2}}$

19. Find the slope of the line shown. (Lesson 2-3)



$\frac{\text{rise}}{\text{run}} = \frac{-2}{4}$

$m = -\frac{1}{2}$