

Algebra I Pre-Assessment

Name: key

UNIT 1

Section 1: Expressions

1. Which expression best represents the phrase "seven less than three times a number"?
- C
- a. $7 - 3n$
b. $3 - 7n$
c. $3n - 7$
d. $7n - 3$
2. Winta opened a checking account with a \$50 deposit. Each month she earned \$60 tutoring math, of which she spends \$22 per month. She deposits the rest of her earnings into her checking account. Which expression best represents how much money Winta should have in her checking account after m months?
- A
- a. $50 + (60 - 22)m$
b. $50 + 22m$
c. $50 + 60m$
d. $50 + 60m - 22$

3. Which of these is equivalent to $3(x - 1) - 2(x + 3) - x$?
- B
- a. -3
b. -9
c. $4x - 9$
d. $4x + 3$

Section 2: Solving Equations

4. Solve the following equation for z : $2 = \frac{10 + z}{-3}$
- C
- a. $z = 6 - 10$
b. $z = 6 + 10$
c. $z = -6 - 10$
d. $z = -6 + 10$

5. $\angle T$ and $\angle U$ are supplementary. The measure of $\angle T$ is 24 less than twice the measure of $\angle U$. What is the measure of $\angle U$?
- A
- a. 68°
b. 78°
c. 102°
d. 112°

$$\begin{aligned} x + 2x - 24 &= 180 \\ 3x - 24 &= 180 \\ 3x &= 204 \end{aligned}$$

6. If $5x - 5 = 3(x - 3)$, what is the value of x ?
- A
- a. -2
b. $-\frac{1}{2}$
c. $\frac{1}{2}$
d. 2

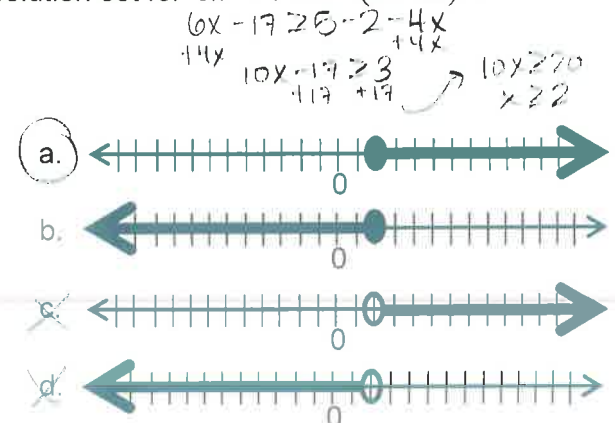
$$\begin{aligned} 5x - 5 &= 3x - 9 \\ -3x &= -3x \\ 2x - 5 &= -9 \\ +5 &+5 \\ 2x &= -4 \\ x &= -2 \end{aligned}$$

Section 3: Solving Inequalities

7. Harris has \$20.92 to spend on video game rentals at a local video store. The store charges \$2.95 per video game rental plus 8% tax. What is the maximum number of video games that Harris can rent?
- B

$$\begin{aligned} 2.95x &\leq 20.92 \\ 1.08(2.95x) &\leq 20.92 \\ 3.186x &\leq 20.92 \\ x &\leq 6.56 \end{aligned}$$

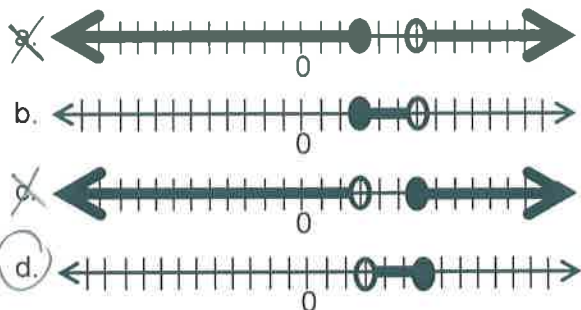
8. Which of the following represents the solution set for $6x - 17 \geq 5 - (2 + 4x)$?
- A



9. Which of the following represents the solution set for $4 < 2y - 2 \leq 10$?

$$\begin{array}{r} +2 \quad +2 \quad +2 \\ \hline \frac{6}{2} < \frac{2y}{2} \leq \frac{12}{2} \\ 3 < y \leq 6 \end{array}$$

D



UNIT 2

Section 5: Patterns

13. Which function rule describes the following pattern: -5, -7, -9, -11, -13, ...

D

- a. $2n - 3$
b. $\frac{1}{2}n - 3$
c. $-\frac{1}{2}n - 3$
d. $-2n - 3$

$$-2n - 3$$

14. Given the function rule $-n(2n - 3)$, determine the number in the 13th position.

A

- a. -299
b. -252
c. 13
d. 1014

Section 4: Proportions and Percentages

10. On a certain day, the exchange rate of Mexican pesos for U.S. dollars was approximately 10 pesos for 1 dollar. If an exchange of \$4,000 pesos was made that day, what was the approximate value of the exchange in dollars?

B

- a. \$40
b. \$400
c. \$4,000
d. \$40,000

	W	O	N
pesos	10	4000	
dollars	1	x	

$10x = 4000$
 $x = 400$

11. Jeff receives 7% commission for every home he sells. If he received \$9,800 in commission for the last home he sold, what was the selling price of that home?

D

- a. \$686
b. \$6,860
c. \$10,486
d. \$140,000

$$\begin{array}{r} 9800 \\ \times 7 \\ \hline 100 \end{array}$$

$x = \$140000$

12. Bobby saved \$32 when he purchased a jacket at a clearance sale. If the sale price was 40% off the regular price, what was the regular price of the jacket?

C

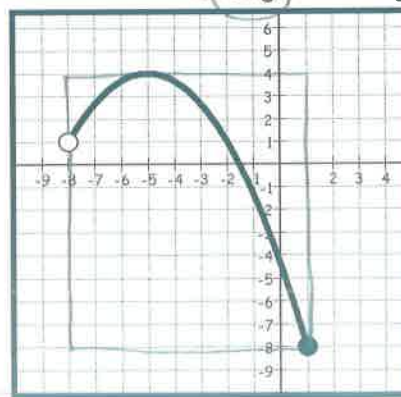
- a. \$48
b. \$72
c. \$80
d. \$128

$$\begin{array}{r} 32 \\ \times 40 \\ \hline 100 \end{array}$$

Section 6: Understanding Graphs

16. Determine the range for the graph below.

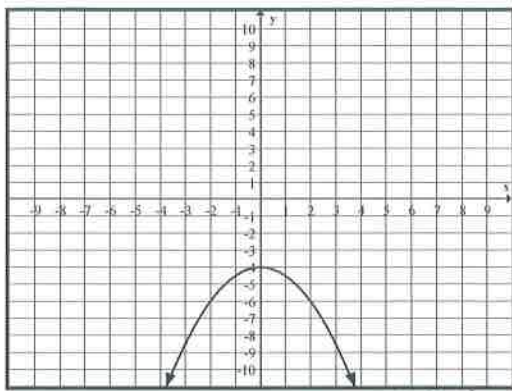
C



- a. $\{y \mid -8 \leq y \leq 1\}$
b. $\{y \mid -8 \leq y \leq 1\}$
c. $\{y \mid -8 \leq y \leq 4\}$
d. $\{y \mid y = -4\}$

$$-8 \leq y \leq 4$$

17. Name the parent function for the graph below.

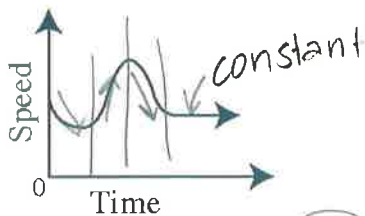


- a. $y = -x$
 b. $y = x$
 c. $y = -x^2$
 d. $y = x^2$

Quad.

18. Which of the following stories best represents the graph shown below?

Roller Skating



- a. ~~Sophia slows down to a stop. Sophia then speeds up again. Sophia slows down once again to a constant speed.~~
- b. Sophia slows down but does not completely stop. Sophia then speeds up. Sophia slows down once again to a constant speed.
- c. ~~Sophia slows down but does not completely stop. Sophia then speeds up. Sophia slows down once again to a complete stop.~~
- d. ~~Sophia slows down but does not completely stop. Sophia then speeds up to a constant speed.~~

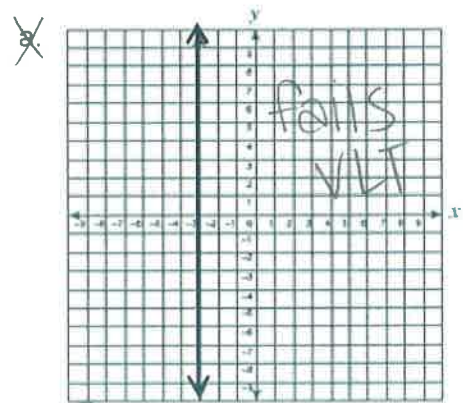
UNIT 3

Section 7: Functions and Relations

19. A long distance telephone company charges \$4.95 per month and \$0.07 per minute for phone calls. What is the independent variable quantity in this situation?

- a. ~~The cost per minute for a long distance call~~
- b. ~~The total cost for a 10-minute long distance call~~
- c. The total monthly charge for long distance service
- d. The number of minutes of a long distance call

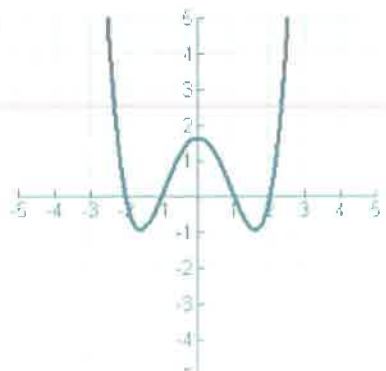
20. Which of the following graphs represents y as a function of x ?



- a. ~~(3, 10), (5, -4), (7, 10), (-4, 0), (3, 14)~~

x	y
2	7
4	8
5	11
2	17

- d.



21. If $f(x) = 2x - 4$, what is the value of x when $f(x) = 6$? $y = 6$

- a. -1
- b. 1
- c. 5
- d. 8

$$6 = 2x - 4$$

$$+4 \quad +4$$

$$\frac{10}{2} = \frac{2x}{2}$$

Section 8-9: Graphing Equations and Inequalities

22. What is the x-intercept of the equation $2x + 3y = 18$?

- a. (6, 0)
- b. (0, 6)
- c. (9, 0)
- d. (0, 9)

$$2x = 18$$

$$x = 9$$

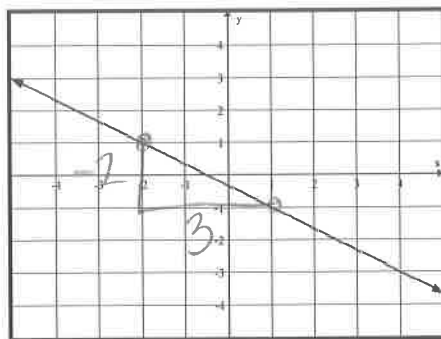
23. What happens if the function $y = 3x - 2$ is changed to $y = x + 7$? *less steep up 9*

- a. The new graph is flatter and translated up 5 units.
- ~~b. The new graph is steeper and translated up 9 units.~~
- c. The new graph is flatter and translated up 9 units.
- ~~d. The new graph is steeper and translated up 5 units.~~

24. A trophy company charges \$175 for a trophy plus \$0.20 per letter for the engraving. The total charge for a trophy with x letters is given by the function $f(x) = 0.20x + 175$. How will the graph change if the trophy's cost is lowered to \$150?

- a. The graph will get steeper.
- b. The graph will get flatter.
- c. The graph will start at a lower y-intercept.
- d. The graph will start at a higher y-intercept.

25. Which of the following linear functions does not represent a rate of change of $-\frac{2}{3}$?



b. (6, -4) and (-12, 8) $\frac{8+4}{-12-6} = \frac{12}{-18} = -\frac{2}{3}$

c.

X	-3	1	5	9
Y	10	4	-2	-8

Handwritten notes: +4, +4, +4 above the x-values; -6, -6, -6 below the y-values. Calculation: $-\frac{6}{4} = -\frac{3}{2}$

d. $2x + 3y = 12$
 $-\frac{2}{3}$

UNIT 4

Section 10: Writing Equations of Lines

26. Which best represents the equation of the line that is perpendicular to the line $y = -2x + 6$ that passes through the point $(-4, 8)$?

a. $y = \frac{1}{2}x + 12$

b. $y = \frac{1}{2}x + 10$

c. $y = -2x + 16$

d. $y = -2x$

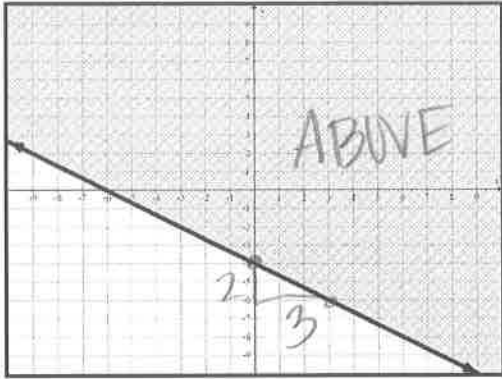
Handwritten notes: $m = -2$, $\perp m = \frac{1}{2}$

$$y - 8 = \frac{1}{2}(x + 4)$$

$$y - 8 = \frac{1}{2}x + 2$$

$$+8 \quad +8$$

27. Write an inequality that represents the graph shown below.



- ~~a.~~ $y \leq -\frac{2}{3}x - 4$
~~b.~~ $y \leq -\frac{3}{2}x - 4$
☒ c. $y \geq -\frac{2}{3}x - 4$
d. $y \geq -\frac{3}{2}x - 4$

My Self-Analysis:

Section	Number Missed	I feel good/okay/bad about this section.
1	0	KNOW IT ALL!!
2	0	
3	0	
4	0	
5	0	
6	0	
7	0	
8-9	0	
10	0	

28. Which of the following represents the equation of the line for the table below?

Days	Cost
1	34
2	56
3	78
4	100

Handwritten notes: +12, +22, +22

- ~~a.~~ $22x + y = 12$
b. $y - 2 = 22(x - 5)$
~~c.~~ $y = 22x - 12$
☒ d. $22x - y = -12$

$$y - 34 = 22(x - 1)$$

$$y - 34 = 22x - 22$$

$$+34 \quad +34$$

$$y = 22x + 12$$

I need to focus my studying on these three sections:

Section _____

Section _____

Section _____