For items 1 to 9, match the letter for each equation to a corresponding graph or data table.

A		y = x		B	x = y + 1		С	y = 1.5		D	y = -x + 1	
1.				2.			3.		•	4.		
5.	$ \begin{array}{c c} x \\ \hline 2 \\ \hline 1 \\ 0 \\ \hline -1 \\ -2 \end{array} $	y 1.5 1.5 1.5 1.5 1.5	6.	$\begin{array}{c cc} x & y \\ 2 & -1 \\ \hline 1 & 0 \\ 0 & 1 \\ \hline -1 & 2 \\ \hline -2 & 3 \\ \end{array}$	7	7. x 2 1 0 -1 -2	y 3 1 -1 -3 -5	$ \begin{array}{c c} 8. & x \\ \hline 4 \\ \hline 2 \\ \hline 0 \\ \hline -2 \\ \hline -4 \\ \end{array} $	y 4 2 0 -2 -4		4 - 2 - 0 -2	y -3 -1 1 3 5

10. Identify the **graph(s)** above representing the given relationship by circling the corresponding number(s) below:

The sum of a variable and one is equal to two multiplied by a second variable.

1 2

3

4

11. Identify the **table(s)** above representing a rate of change of 0 by circling the corresponding number(s) below.

5

6

7

12. Jake graphed 2x = y + 1. Jamie graphed the equation y = 4x - 3. How does Jamie's graph compare to Jake's graph?

- A. Jamie's graph is translated down 3 units from Jake's graph.
- B. Jamie's graph is translated up 3 units from Jake's graph.
- C. Jamie's graph is steeper than Jake's graph.
- D. Jamie's graph is less steep than Jake's graph.

Answer

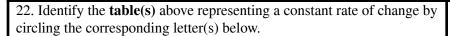
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For items 13 to 21, match the letter of each data table to a corresponding graph or equation.

A	X	У	В	X	У	С	х	У	D	x	У	
	4	16		2	4		2	5		4	3	
	2	4		1	2		1	3		2	1	
	0	0		0	1		0	1		0	-1	
	-2	4		-1	1_		-1	-1		-2	-3	
					2							
	-4	16		-2	$\frac{1}{4}$		-2	-3		-4	_5	

13.	14.	15	5.	1	16.
	\vdash		_	-	_
	18.	$ \begin{array}{c} 19. \\ y = x - 1 \end{array} $	20). = x ²	21. $3y = 6x + 3$
y = 2x + 1	$y = 2^x$	y = x - 1	y =	= x	y = 0x + 3



Α

R

D

24. Kate graphed $y = x^2$. Jim graphed the equation $y = x^2 - 4$. How does Jim's graph compare to Kate's graph?

- **A.** Jim's graph is translated down 4 units from Kate's graph.
- B. Jim's graph is translated up 4 units from Kate's graph.

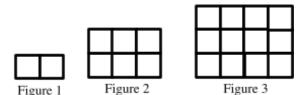
23. Identify the **equation(s)** above representing a non-constant rate of change by circling the corresponding number(s) below.

17 18 19 20 21

- C. Jim's graph is translated left 4 units from Kate's graph.
- D. Jim's graph is narrower than Kate's graph.

Answer

25. Tiles are arranged in a pattern as shown in the drawing below.



Let y represent the number of tiles in the figure and n represent the figure number. Which of the following functions represents the pattern?

A.
$$y = n^2 + 2$$

B.
$$y = 2n + 1$$

C.
$$y = n(n + 1)$$

D. It is not possible to represent the pattern with a function.

26. The graph of which of the following equations would be perpendicular to the graph of 3y = 6x - 9?

- A. y = 2x + 3, because its slope is the same as the given equation.
- B. y = -2x + 3, because its slope is opposite in sign as the given equation.
- C. $y = \frac{1}{2}x + 3$, because its slope is the reciprocal of the slope in the given equation.
- D. $y = -\frac{1}{2}x + 3$, because its slope is opposite in sign and the reciprocal of the slope in the given equation

Answer

27. As drew a line with a slope = 0. Emily drew a line with an undefined slope. Which statement is true?

- A. Asa's graph was vertical and crossed the y-axis.
- B. Asa's graph was horizontal and crossed the *x*-axis.
- C. Emily's graph was vertical and crossed the *x*-axis.
- D. Emily's graph was horizontal and crossed the *y*-axis.

28. David graphed the equation $y = 2x^2$. Sarah graphed the equation $y = \frac{1}{2}x^2 + 1$. How does Sarah's graph compare to David's graph?

- A. Sarah's graph is wider and is translated up 1 unit from David's graph.
- B. Sarah's graph is narrower and is translated up 1 unit from David's graph.
- C. Sarah's graph is wider and is translated left 1 unit from David's graph.

Answer

Answer _____

D. Sarah's graph is translated up 1 unit and right $\frac{1}{2}$ of a unit from David's graph.

Answer _____

29. Select the pair of equations and explanation of parallel lines.

- A. $z_{x+y=0}$ and 2y = 4x + 16, because they have the same slope.
- B. 2y = -4x 6 and -2y = -4x 4, because they have opposite slopes.
- C. y = x + 1 and -x + y = 1, because they have opposite slopes.
- D. y = 3x + 9 and 2y = 6x 2, because they have the same slope.

Answer ____

30. Shawn graphed $y = x^2$. Now he wants to make his graph narrower and translated right. What might the equation of his new graph be?

A.
$$y = (x + 1)^2 + 3$$

B.
$$y = \frac{1}{2}(x+1)^2 - 3$$

C.
$$y = 2(x - 1)^2 - 1$$

D.
$$y = \frac{1}{2}(x - 1)^2 + 1$$

Answer

31. Jill said that y > -2x + 1 would have solutions in all quadrants except quadrant III. Do you agree with Jill?

- A. Agree, because the line y = -2x + 1 goes through quadrants I, II and IV and the solution would be all points below the line.
- B. Agree, because the line y = -2x + 1 goes through quadrants I, II, and IV and the solution would be all points above the line.
- C. Disagree, because you cannot have solutions in three quadrants.
- D. Disagree, because you reverse the inequality symbol when there is a negative sign. There would be solutions in quadrant III.

32. Which of the following predicts a line that goes through Quadrants II, III, and IV?

A.
$$y = 2x - 3$$

B.
$$y = -2x - 3$$

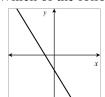
C.
$$y = x + 1$$

D.
$$y = -x + 1$$

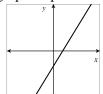
Answer _____

33. Which of the following graphs represent the equation y = -0.999 + 1.00001x?

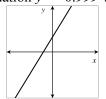
A.



В.



C



Answer

D.



Answer

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