

TEST NAME: Math 8th march 28
TEST ID: 3001588
GRADE: 08 - Eighth Grade
SUBJECT: Mathematics
TEST CATEGORY: My Classroom

Student: _____

Class: _____

Date: _____

1. Which statement is **true** of table A and table B shown below?

TABLE A

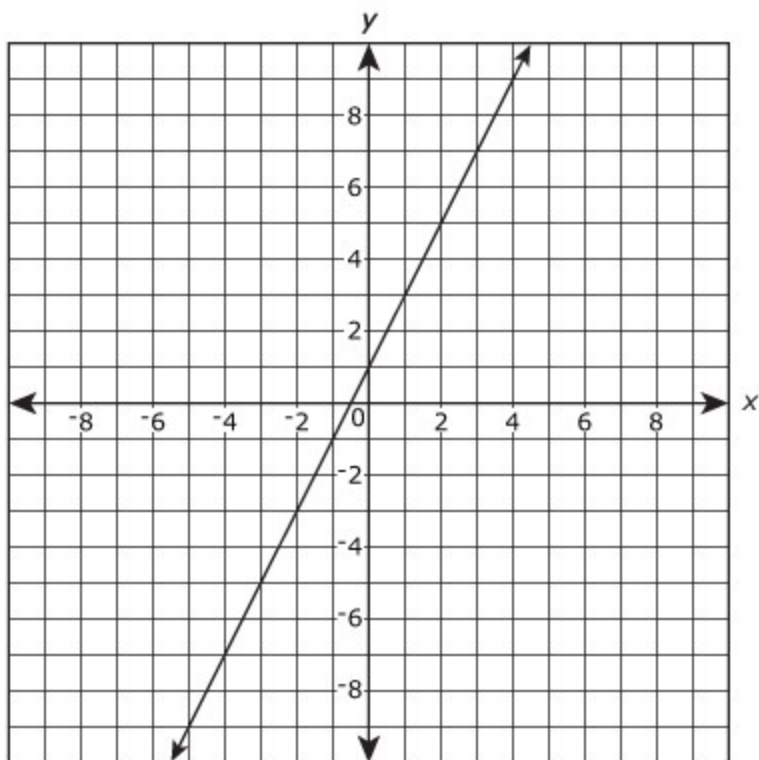
x	y
2	2
4	6
6	8
2	4

TABLE B

x	y
9	3
12	3
15	3
18	3

- A. Table A represents a function because there is only one output for each input value.
- B. Table B represents a function because there is only one output for each input value.
- C. Table A represents a function because there is only one input for each output value.
- D. Table B represents a function because there is only one input for each output value.

2. A linear function is graphed on the coordinate plane below.

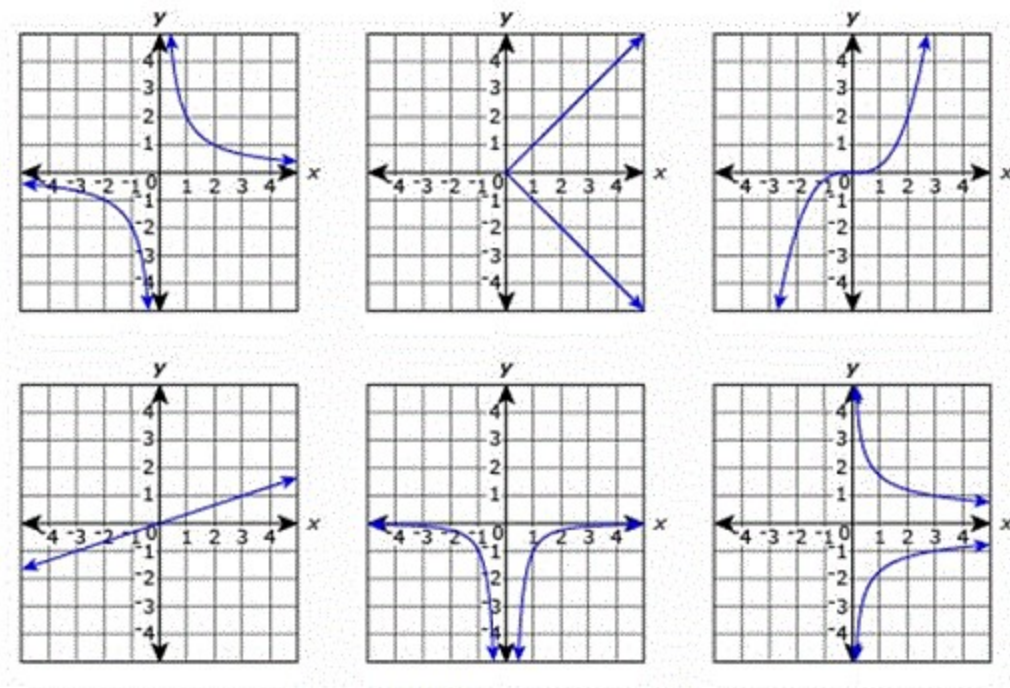


Which output value is associated with the input value of 4?

- A. 1
 - B. 1.5
 - C. 2
 - D. 9
3. Part A Which ordered pair could be removed from the set $\{(2, 5), (3, 5), (4, 6), (2, 8), (6, 7)\}$ so that the relation represents a function? Explain your answer.

Part B Write an ordered pair that could be added to the set $\{(3, 4), (5, 6), (7, 7)\}$ such that the set would still be a function. Explain your answer.

4. Which graphs show functions? Click on each graph you want to select.



5. Which sets of ordered pairs below describe a function?

I. $\{(2, 3), (2, 4)\}$

II. $\{(0, 2), (0, 3)\}$

III. $\{(3, 0.3), (-3, 0.3)\}$

IV. $\{(-2, 2), (2, -2)\}$

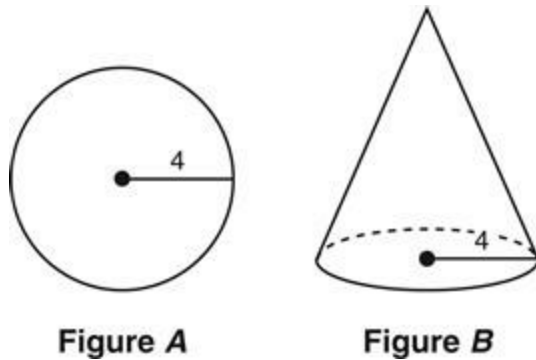
A. I and II

B. II and III

C. III and IV

D. IV and I

6. **Figure A** is a view of **Figure B** from the bottom.

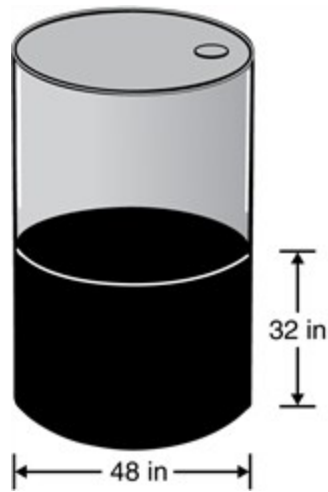


Which statement correctly describes one relationship between Figure A and Figure B?

- A. The diameter of Figure B is larger than the diameter of Figure A.
- B. The height of Figure B is 3 times the height of Figure A.
- C. Figure A is used in calculating the volume of Figure B.
- D. Figure B has twice as many edges as Figure A.
7. A company sells two different-sized cylindrical tanks. Tank *M* is 6 feet tall and has a diameter of 3 feet. Tank *P* is 8 feet tall and has a diameter of 2 feet. Which tank has the greater volume and by **about** how much?
- A. The volume of tank *M* is greater than the volume of tank *P* by about 6.2 cubic feet.
- B. The volume of tank *P* is greater than the volume of tank *M* by about 6.2 cubic feet.
- C. The volume of tank *M* is greater than the volume of tank *P* by about 17.3 cubic feet.
- D. The volume of tank *P* is greater than the volume of tank *M* by about 17.3 cubic feet.
8. The diameter of the base of a cone is 3 inches and the height of the cone is 5 inches. What is the **approximate** volume of the cone?
- A. 7.5 cubic inches
- B. 11.8 cubic inches
- C. 17.7 cubic inches
- D. 35.3 cubic inches

9. A cylinder-shaped container is used to store water. The container has a height of 6 feet and a diameter of 3 feet. **About** how much water is in the container when it is $\frac{3}{4}$ full?
- A. 127 cubic feet
 - B. 42 cubic feet
 - C. 32 cubic feet
 - D. 14 cubic feet
10. **The volume of a cylindrical container is 1 gallon. If the dimensions are dilated by a scale factor of $\frac{3}{4}$, what is the volume of the new container?**
- A. $\frac{3}{4}$ gal
 - B. $\frac{27}{64}$ gal
 - C. $\frac{9}{16}$ gal
 - D. $\frac{9}{64}$ gal
11. A company is going to redesign the cylindrical container it uses to market its product. The volume of the proposed container will be approximately 42.4 cubic inches and the diameter will be 3 inches. What will be the approximate height of the cylinder, rounded to the nearest tenth of an inch?
- A. 1.5 inches
 - B. 4.5 inches
 - C. 6.0 inches
 - D. 9.0 inches

12. A water tower is in the shape of a cone. The tower is 30 ft tall and 20 ft in diameter. What is the **approximate** maximum volume of the tower?
- A. 628 ft^3
 - B. $3,140 \text{ ft}^3$
 - C. $12,566 \text{ ft}^3$
 - D. $18,850 \text{ ft}^3$
13. **Which situation does NOT require the cube root operation?**
- A. determining the side of a cube given the volume
 - B. determining the radius of a sphere given the volume
 - C. determining the surface area of a cube given the volume
 - D. determining the height of a cylinder given the volume and radius
14. **Una lata de aceite cilíndrico en un taller de reparaciones está parcialmente llena con aceite reciclado. La lata está llenado al nivel que se muestra en la imagen a continuación.**



¿Cuál es el volumen de la porción de la lata que está llenado con aceite?

- A. $768\pi \text{ in}^3$
- B. $1536\pi \text{ in}^3$
- C. $9216\pi \text{ in}^3$
- D. $18,432\pi \text{ in}^3$

15. A cylinder has a volume of 18π cubic inches. If the radius is 3 inches, what is the height of the cylinder in inches?
- A. 15
 - B. 9
 - C. 6
 - D. 2