

1. Which of the following could be a value of  $x$ , in the diagram above?

Indicate ALL such values.

- A. 10
- B. 20
- C. 30
- D. 40
- E. 50

2. Helpers are needed to prepare for the fete. Each helper can make either 2 large cakes or 35 small cakes per hour. The kitchen is available for 3 hours and 20 large cakes and 700 small cakes are needed. How many helpers are required?

- A. 10
- B. 15
- C. 20
- D. 25
- E. 30

3. Jo's collection contains US, Indian and British stamps. If the ratio of US to Indian stamps is 5 to 2 and the ratio of Indian to British stamps is 5 to 1, what is the ratio of US to British stamps?

- A. 5 : 1
- B. 10 : 5
- C. 15 : 2
- D. 20 : 2
- E. 25 : 2

4. A 3 by 4 rectangle is inscribed in circle. What is the circumference of the circle?

- A.  $2.5\pi$
- B.  $3\pi$

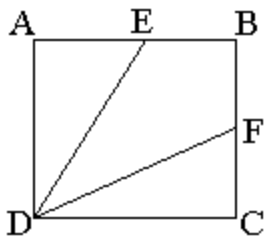
- C.  $5\pi$
- D.  $4\pi$
- E.  $10\pi$

5. Two sets of 4 consecutive positive integers have exactly one integer in common. The sum of the integers in the set with greater numbers is how much greater than the sum of the integers in the other set?

- A. 4
- B. 7
- C. 8
- D. 12
- E. it cannot be determined from the information given.

6. A circular logo is enlarged to fit the lid of a jar. The new diameter is 50 per cent larger than the original. By what percentage has the area of the logo increased?

- A. 50
- B. 80
- C. 100
- D. 125
- E. 250



7. ABCD is a square of side 3, and E and F are the mid points of sides AB and BC respectively. What is the area of the quadrilateral EBFD ?

- A. 2.25
- B. 3
- C. 4
- D. 4.5
- E. 6

8. If  $n \neq 0$ , which of the following expressions could have a value less than  $n$ ?

Indicate ALL such expressions.

- A.  $2n$
- B.  $n^2$
- C.  $2 - n$

9. After being dropped a certain ball always bounces back to  $\frac{2}{5}$  of the height of its previous bounce. After the first bounce it reaches a height of 125 inches. How high (in inches) will it reach after its fourth bounce?

- A. 20
- B. 15
- C. 8
- D. 5
- E. 3.2

10.  $n$  and  $p$  are integers greater than 1  
 $5n$  is the square of a number  
 $75np$  is the cube of a number.  
The smallest value for  $n + p$  is

- A. 14
- B. 18
- C. 20
- D. 30
- E. 50

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## Answer Key

- 1. BC
- 2. A
- 3. E
- 4. C
- 5. D
- 6. D
- 7. D
- 8. ABC
- 9. C
- 10. A

