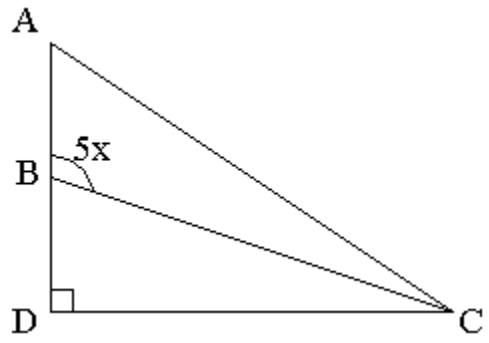
Math Level 2 SAT Practice Test 13

SET-1



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

A. 10

B. 20

C. 40

D. 50

E. any of the above

2. Helpers are needed to prepare for the fete. Each helper can make either 2 large cakes per hour, 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. 2.5π

B. 3π

C. 5π

D. 4π

E. 10π

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. If f(x) = (x + 2) / (x-2) for all integers except x=2, which of the following has the greatest value?

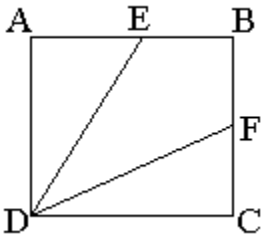
A. f(-1)

B. f(0)

C. f(1)

D. f(3)

E. f(4)



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 must be greater than n?

I $2n$
II n^2
III $2 - n$

A. I only

B. II only

C. I and II only

D. II and III only

E. None

9. After being dropped a certain ball always bounces back to 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

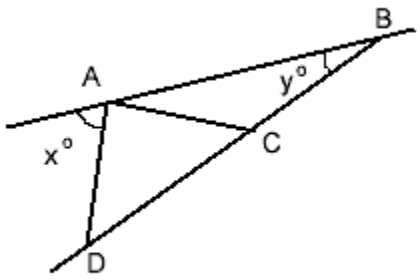
SET-2

1. What is the sum of all the positive integer factors of 12 ?

2. The average IQ of 4 people is 110. If three of these people each have an IQ of 105, what is the IQ of the fourth person ?

3. Of 60 students in a class 2/3 are girls, and 2/5 of the class are taking music lessons. What is the maximum number of girls that are not taking music lessons?

4. If $2^{n+1} = 8$, what is the value of n ?

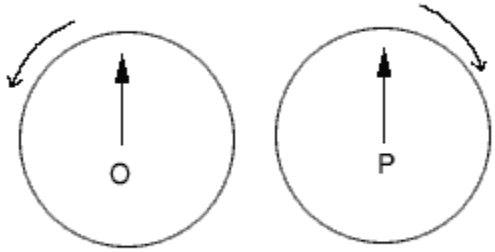


(figure not to scale)

5. In the figure above, AD = AC = CB.

If the value of y is 28, what is the value of x?

6. One gallon of fuel mixture contains antifreeze in the ratio of 5 parts fuel to one part antifreeze. To this is added half a gallon of mixture which is one third antifreeze and two thirds fuel. What is the ratio of fuel to antifreeze in the final mixture? (Grid your answer as a fraction: fuel/antifreeze)



7. Two dials O and P have pointers that start from the vertical position as shown. Pointer O rotates anticlockwise at a rate of 5 degrees per second and pointer P rotates clockwise at 9 degrees per second. How many complete revolutions will P have made when O completes 335 complete revolutions?

8. What is the total surface area of 2 identical cubes which together have a volume of 1458 units?

9. N {12,18,2,6}

P {1,4,2,3}

If n and p are to be selected at random from sets N and P respectively, what is the probability that n/2p will be a member of set P?

10. If $f(x) = (12 - x)^{3/2}$, and n = f(3), what is the value of 2n?