

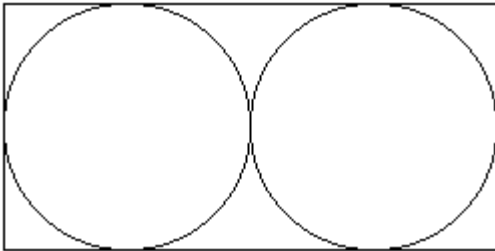
1. The number 0.127 is how much greater than $\frac{1}{8}$?

- A. $\frac{1}{2}$
- B. $\frac{2}{10}$
- C. $\frac{1}{50}$
- D. $\frac{1}{500}$
- E. $\frac{2}{500}$

2. Which of the following could not be the lengths of the sides of a right angled triangle?

Select ALL such sets.

- A. 3, 4, 5
- B. 5, 12, 13
- C. 8, 15, 17
- D. 12, 15, 18
- E. 9, 12, 15
- F. 12, 16, 20
- G. 10, 24, 25



3. Two equal circles are cut out of a rectangle of card of dimensions 16 by 8. The circles have the maximum diameter possible. What is the approximate area of the paper remaining after the circles have been cut out?

- A. 104
- B. 78
- C. 54
- D. 27
- E. 13

$$\frac{a^2 - b^2}{a + b} =$$

4. If a and b are both positive, and $a \neq b$, which of the following is a simplification of the expression above?

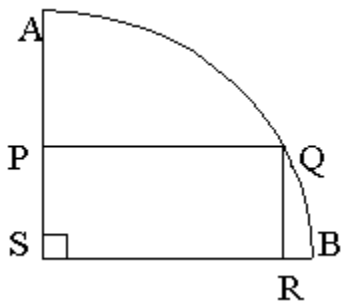
Select one or more of the following

- A. $a^2 + b^2 + 1$
- B. $a + b$
- C. $a - b$
- D. ab

5. $x = y - (50/y)$, where x and y are both > 0

If the value of y is doubled in the equation above, the value of x will

- A. decrease
- B. stay the same
- C. increase four fold
- D. double
- E. increase to more than double



6. ASB is a quarter circle. PQRS is a rectangle with sides $PQ = 8$ and $PS = 6$. What is the length of the arc AQB ?

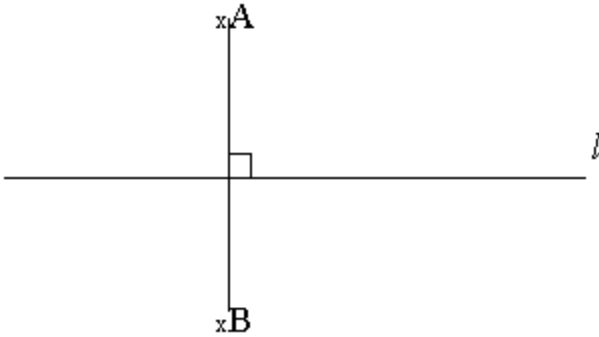
- A. 5π
- B. 10π
- C. 25
- D. 14
- E. 28

7. The number of degrees that the hour hand of a clock moves through between noon and 2.30 in the afternoon of the same day is

- A. 720
- B. 180
- C. 75
- D. 65
- E. 60

8. Jeff takes 20 minutes to jog around the race course one time, and 25 minutes to jog around a second time. What is his average speed in miles per hour for the whole jog if the course is 3 miles long?

- A. 6
- B. 8
- C. 10
- D. 12
- E. 14



9. A and B are equidistant from the line l . How many circles can be drawn with their centres on line l and that pass through both A and B?

- A. 1
- B. 2
- C. 3
- D. 4
- E. >10

10. A wheel has a diameter of x inches and a second wheel has a diameter of y inches. The first wheel covers a distance of d feet in 100 revolutions. How many revolutions does the second wheel make in covering d feet?

- A. $100xy$
- B. $100y - x$
- C. $100x - y$
- D. $100y / x$
- E. $100x / y$

Answer Key

1. D

2. DG
3. D
4. C
5. E
6. A
7. C
8. B
9. E
10. E