

SAT Maths Sample Paper 1

What is the area, in square feet, of the triangle whose sides have lengths equal to 10, 6 and 8 feet?

- A) 480
- B) 24
- C) 48
- D) 30
- E) 40

$$3102 + 9 \times 3100 + 3103/3 = ?$$

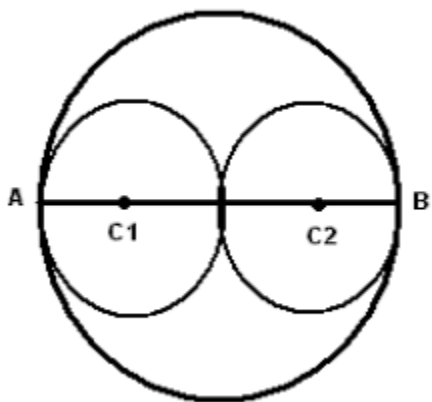
- A) 3101
- B) 3102
- C) 3103
- D) 3104
- E) 3105

Of the 80 students in class, 25 are studying German, 15 French and 13 Spanish. 3 are studying German and French; 4 are studying French and Spanish; 2 are studying German and Spanish; and none is studying all 3 languages at the same time. How many students are not studying any of the three languages?

- A) 27
- B) 18
- C) 53
- D) 62
- E) 36

In the figure below, AB is a diameter of the large circle. The centers C1 and C2 of the smaller circles are on AB. The two small circles are congruent and tangent to each other and to the larger circle. The circumference of circle C1 is 8π . What is the area of the large circle?

sat problem 4.



- A) 64π
- B) 32π
- C) 156π

D) 128π

E) 16π

Round $(202)^2$ to the nearest hundred.

A) 40,000

B) 48,000

C) 40,800

D) 47,000

E) 49,000

If w workers, working at equal rates, can produce x toys in n days, how many days it takes c workers, working at same equal rates, to produce y toys?

A) $y \cdot x \cdot c / w$

B) $y \cdot w \cdot c / (w \cdot n)$

C) $y \cdot w / (w \cdot n \cdot c)$

D) $y \cdot w \cdot n / x$

E) $y \cdot w \cdot n / (x \cdot c)$

A number of the form $213ab$, where a and b are digits, has a remainder less than 10 when divided by 100. The sum of all the digits in the above number is equal to 13. Find the digit b .

A) 5

B) 7

C) 6

D) 8

E) 9

Find a negative value of x that satisfies the equation

$$[(x+1)^2 - (2x + 1)]^{1/2} + 2|x| - 6 = 0$$

A) -5

B) -4

C) -3

D) -2

E) -1

The equation $1/a + 1/|a| = 0$ has

A) an infinite number of solutions

B) no solutions

C) 1 solution only

D) 2 solutions only

E) 3 solutions only

The inequality $x^2 - 2x + 1 \leq 0$ has

A) no solutions

B) a set of solutions

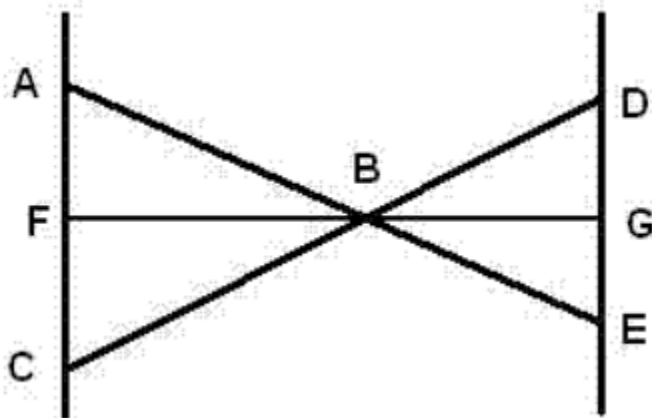
C) 1 solution only

D) 2 solutions only

E) 3 solutions only

In the figure below, AC is parallel to DE . AE , FG and CD intersect at the point B . FG is perpendicular to AC and DE . The length of DE is 5 inches, the length of BG is 8 inches and the length of AC is 6 inches. What is the area, in square inches, of triangle ABC ?

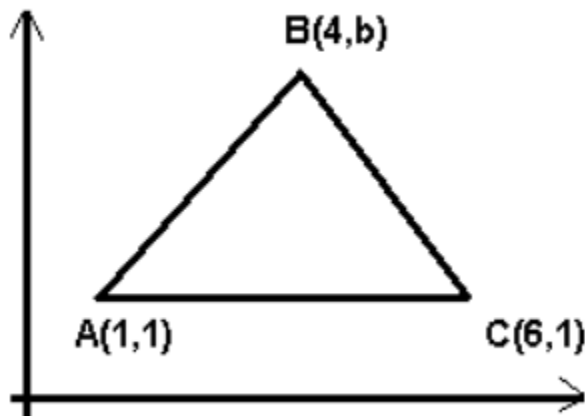
sat problem 11 .



- A) 28.8
- B) 20
- C) 24
- D) 15
- E) 36

Points A , B and C are defined by their coordinates in a standard rectangular system of axes. What positive value of b makes triangle ABC a right triangle with AC its hypotenuse?

sat problem 12.



- A) 4
- B) 6
- C) $\sqrt{6}$
- D) $1 + \sqrt{6}$
- E) $1 + 2\sqrt{3}$

Line L passes through the points $(-2,0)$ and $(0,a)$. Line LL passes through the points $(4,0)$ and $(6,2)$. What value of a makes the two lines parallel?

- A) $1/2$
- B) -2
- C) 2
- D) $-1/2$
- E) 0

a , b , c and d are numbers of different values such that

$$a + b = d$$

$$a \cdot b \cdot c = 0$$

Which of the 4 numbers MUST be equal to 0?

- A) a
- B) b
- C) c
- D) d
- E) none

$$104(54 - 24) / 21 =$$

- A) 10,000
- B) 209,000
- C) 289,000
- D) 290,000
- E) 40,000

For what value of k will the two equations $2x + 4 = 4(x - 2)$ and $-x + k = 2x - 1$ have the same solution?

- A) 6
- B) 2
- C) 17
- D) -1
- E) 20

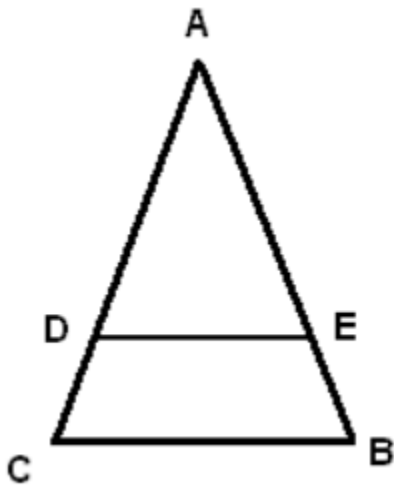
An object travels at fifteen feet per minute. How many feet does it travel in 24 minutes and 40 seconds?

- A) 360
- B) 370
- C) 367.5
- D) 600
- E) 960

$$4 / (\sqrt{20} - \sqrt{12}) =$$

- A) 1
- B) $\frac{1}{2}$
- C) $4 / \sqrt{8}$
- D) $\sqrt{5} - \sqrt{3}$
- E) $\sqrt{5} + \sqrt{3}$

In the figure below, DE is parallel to CB and the ratio (length of AE / length of EB) is 4. If the area of triangle AED is 20 square inches, what is the area, in square inches, of triangle ABC?



- A) 31.25
- B) 80
- C) 320
- D) 1,600
- E) The area of triangle ABC cannot be determined from the given information.

If $f(n) = n + \sqrt{n}$, where n is a positive integer, which of the following would be a value of $f(n)$?

- I) 5
- II) 10
- III) 12

- A) III only
- B) None
- C) I and III only
- D) I, II and III only
- E) II and III only

If a and b are both even numbers, which of the following COULD be an odd integer?

- A) $(a + b)^2$
- B) $a^2 + b^2$
- C) $(a + 1)^2 + (b + 1)^2$

D) $(a + 1)(b + 1) - 1$

E) $(a + 1) / (b + 1)$

If x is a negative number, which of the following must be true?

I) $x^5 < |x|$

II) $x < \sqrt{-x}$

III) $x - 1/|x| < 0$

A) I, II and III

B) I and II only

C) None

D) II and III only

E) I and III only

If n is a positive integer such that $n! / (n - 2)! = 342$, find n .

A) 15

B) 16

C) 17

D) 18

E) 19

What is the sum of the reciprocals of the solutions to the equation

$$x^2 - (3/5)x = -11/3$$

A) $3/5$

B) $5/3$

C) $9/55$

D) $-11/3$

E) $94/65$

A number is given as 987562153ab where a and b are digits. Which values of a and b , such that

$$a + b = 11 \text{ and } a < b,$$

would result in 987562153ab being divisible by 4?

A) $a = 0$, $b = 8$

B) $a = 3$, $b = 8$

C) $a = 7$, $b = 8$

D) $a = 5$, $b = 6$

E) $a = 3$, $b = 4$