

# Geometry SAT10 Prep

1. **3** \*\*\*\*\*-3-2=7\*\*\*\*\*  
 In the equation above, what is the value of  $x$ ?

A)  $-\frac{5}{7}$   
 B) 1  
 C)  $\frac{12}{7}$   
 D) 3

$6x - 5 = 7 + 2x$   
 $-2x \quad -2x$   
 $4x - 5 = 7$   
 $+5 \quad +5$   
 $4x = 12$   
 $\frac{4}{4} \quad \frac{4}{4}$   
 $x = 3$

Complete the SAT problem (No Calc)

- A
- B
- C
- D

4. **1**

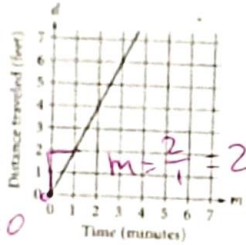
In the figure above,  $RT = TU$ . What is the value of  $x$ ?

- A) 72
- B) 66
- C) 64
- D) 58

Isosceles  $\Delta$   
 $180 - 114 = \frac{66}{2}$   
 $33$   
 $180 - 33 - 33 = 116$   
 $x = 180 - 116 = 64$

Complete the SAT problem (No Calc)

2. **1**



The graph above shows the distance traveled  $d$ , in feet, by a product on a conveyor belt  $m$  minutes after the product is placed on the belt. Which of the following equations correctly relates  $d$  and  $m$ ?

- A)  $d = 2m$
- B)  $d = \frac{1}{2}m$
- C)  $d = m + 2$
- D)  $d = 2m + 2$

$y = mx + b$   
 $d = 2x + 0$   
 $d = 2m$

Complete the SAT problem (No Calc)

5. **5**

The width of a rectangular dance floor is  $w$  feet. The length of the floor is 6 feet longer than its width. Which of the following expresses the perimeter, in feet, of the dance floor in terms of  $w$ ?

A)  $2w + 6$   
 B)  $4w + 12$   
 C)  $w^2 + 6$   
 D)  $w^2 + 6w$

$w + 6$   
 $w + 6$   
 $w + 6$   
 $w + 6$   
 $P = 5 + 5 + 5 + 5$   
 $P = w + w + 6 + 6 + w + 6$   
 $P = 4w + 12$

Complete the SAT problem (No Calc)

3. **1**

The formula below is often used by project managers to compute  $E$ , the estimated time to complete a job, where  $O$  is the shortest completion time,  $P$  is the longest completion time, and  $M$  is the most likely completion time.

$$E = \frac{O + 4M + P}{6}$$

Which of the following correctly gives  $P$  in terms of  $E$ ,  $O$ , and  $M$ ?

- A)  $P = 6E - O - 4M$
- B)  $P = -6E + O + 4M$
- C)  $P = \frac{O + 4M + E}{6}$
- D)  $P = \frac{O + 4M - E}{6}$

solve for P  
 $6(E) = \frac{O + 4M + P}{6} \cdot 6$   
 $6E = O + 4M + P$   
 $-O - 4M - O - 4M$   
 $6E - O - 4M = P$

Complete the SAT problem (No Calc)

6. **13**

Oil and gas production in a certain area dropped from 4 million barrels in 2000 to 1.9 million barrels in 2013. Assuming that the oil and gas production decreased at a constant rate, which of the following linear functions  $f$  best models the production, in millions of barrels,  $t$  years after the year 2000?

A)  $f(t) = \frac{21}{130}t + 4$   
 B)  $f(t) = \frac{19}{130}t + 4$   
 C)  $f(t) = -\frac{21}{130}t + 4$   
 D)  $f(t) = -\frac{19}{130}t + 4$

negative slope

$m = \frac{4 - 1.9}{0 - 13} = \frac{2.1}{-13} = -\frac{21}{130}$   
 $b = (0, 4)$   
 $b = 4$

Complete the SAT problem (No Calc)

**15**

$$g(x) = 2x - 1$$

$$h(x) = 1 - g(x)$$

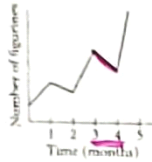
The functions  $g$  and  $h$  are defined above. What is the value of  $h(0)$ ?

- A) -2
- B) 0
- C) 1
- D) 2

plug 0 in for x in function h  
 $h(0) = 1 - g(0)$  must find  $g(0)$  first  
 $h(0) = 1 - (2(0) - 1) \rightarrow h(0) = 1 - (-1)$   
 $h(0) = 1 - (0 - 1)$   
 $1 + 1 = 2$

Complete the SAT problem (No Calc)

8. Tracy collects, sells, and trades figurines, and she tracks the number of figurines in her collection on the graph below.



On what interval did the number of figurines decrease the fastest? *steepest downward slope*

- A) Between 1 and 2 months
- B) Between 2 and 3 months
- C) Between 3 and 4 months
- D) Between 4 and 5 months

Complete the SAT problem (Calculator)

A

B

9. In a random sample of 200 cars of a particular model, 3 have a manufacturing defect. At this rate, how many of 10,000 cars of the same model will have a manufacturing defect?

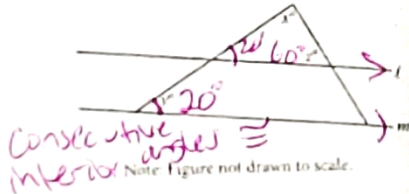
*200 cars / 3 defects = 10,000 cars / x defects*  
 $200x = 30,000$   
 $x = 150$

Complete the SAT problem (Calculator)

A

C

10. In the figure above, lines  $l$  and  $m$  are parallel.



In the figure above, lines  $l$  and  $m$  are parallel.  $y = 20$ , and  $z = 60$ . What is the value of  $x$ ? *Triangle Sum = 180*

- A) 120
- B) 100
- C) 90
- D) 80

Complete the SAT problem (Calculator)

B

C

11. Which of the following is a value of  $x$  for which the expression  $\frac{-3}{x^2 + 3x - 10}$  is undefined?

*what value of x makes the denominator 0*

- A) -3
- B) -2
- C) 0
- D) 2

Complete the SAT problem (Calculator)

A

C

B

D

12. Population of Greenleaf, Idaho

Year	Population
2000	862
2010	846

The table above shows the population of Greenleaf, Idaho, for the years 2000 and 2010. If the relationship between population and year is linear, which of the following functions  $P$  models the population of Greenleaf  $t$  years after 2000?

- A)  $P(t) = 862 - 1.6t$
- B)  $P(t) = 862 + 16t$
- C)  $P(t) = 862 + 16(t - 2,000)$
- D)  $P(t) = 862 - 1.6(t - 2,000)$

Complete the SAT problem (Calculator)

A

B

*y = mx + b*  
 Find m and b

$m = \frac{846 - 862}{2010 - 2000}$

$m = \frac{-16}{10} = -1.6$

$y = -1.6x + 862$

B

D