Math Level 1 SAT Practice Test 20

Question #1: If f(x) = x and g(x) = √x, x≥ 0, what are the solutions of f(x) = g(x)?

x = 1

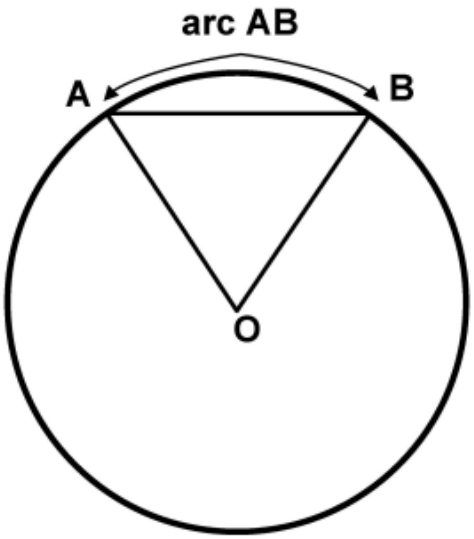
$x_1 = 1, x_2 = -1$

$x_1 = 1, x_2 = 0$

x = 0

x = -1

Question #2: What is the length of the arc AB in the figure below, if O is the center of the circle and triangle OAB is equilateral? The radius of the circle is 9.



¶

2 · ¶

3 · ¶

4 · ¶

¶ / 2

Question #3: What is the probability that someone that throws 2 dice gets a 5 and a 6? Each dice has sides numbered from 1 to 6.

1/2

1/6

1/12

1/18

Question #4: A cyclist bikes from town A to town B and back to town A in 3 hours. He bikes from A to B at a speed of 15 miles/hour while his return speed is 10 miles/hour. What is the distance between the 2 towns?

11 miles

18 miles

15 miles

12 miles

10 miles

Question #5: The volume of a cube-shaped glass C1 of edge a is equal to half the volume of a cylinder-shaped glass C2. The radius of C2 is equal to the edge of C1. What is the height of C2?

2·a / ¶

a / ¶

a / (2·¶)

a / ¶

a + ¶

Question #6: How many integers x are there such that $2^x < 100$, and at the same time the number $2^x + 2$ is an integer divisible by both 3 and 2?

1

2

3

4

5

Question #7: $\sin(x)\cos(x)(1 + \tan^2(x)) =$

$\tan(x) + 1$

$\cos(x)$

$\sin(x)$

$\tan(x)$

$\sin(x) + \cos(x)$

Question #8: If 5xy = 210, and x and y are positive integers, each of the following could be the value of x + y except:

13

17

23

15

43

Question #9: The average of the integers 24, 6, 12, x and y is 11. What is the value of the sum x + y?

11

17

13

15

9

Question #10: The inequality $|2x - 1| > 5$ must be true in which one of the following cases?

I. $x < -5$

II. $x > 7$

III. $x > 0$

II only

I, II and II

I and II only

I and III only

I only