

SAT Math Pre-Test

2. If 30% of b is 40, what is 15% of b ?

- (A) 15
- (B) 20
- (C) 25
- (D) 30
- (E) 35

4. If the y th term in a sequence is 3×2^y , what is the 10th term in the sequence?

- (A) 60
- (B) 1,024
- (C) 1,536
- (D) 3,072
- (E) 6,144

7. Let c be an integer greater than 1, let f = the average (arithmetic mean) of the integers from 1 to c . Let g = the average (arithmetic mean) of the integers from 0 to c . Which of the following can be true?
I. $f = g$ II. $f < g$ III. $f > g$

- (A) I only
- (B) II only
- (C) III only
- (D) II & III only
- (E) I, II & III

8. In 1950, the populations of town X and town Y were equal. From 1950-1960, the population of town X increased by 60% and the population of town Y decreased by 60%. In 1960, the population of town Y was what % of the population of town X?

- (A) 25%
- (B) 36%
- (C) 40%
- (D) 60%
- (E) 120%

9. Points S and J lie on a circle (not pictured) with center P such that triangle SPJ is equilateral. What is the probability that a randomly selected point on the circle lies on the minor arc of SJ?

- (A) $1/360$
- (B) $1/60$
- (C) $1/6$
- (D) $1/8$
- (E) It cannot be determined from the given information.

10. If the length of a minor arc formed by two radii in a circle is $1/40$ of the circumference, what is the arc's measurement in degrees?

- (A) 3
- (B) 6
- (C) 9
- (D) 12
- (E) 15

11. Lois travels c miles on her bike to get from home to school. If she travels at 8 miles per hour, the trip takes 3 hours. How many hours will the trip take if she bikes at 12 miles per hour?

- (A) 1
- (B) 2
- (C) 4
- (D) 12
- (E) 24

11. In the xy -coordinate plane, line m is the reflection of line p about the x -axis. If the slope of line m is $-7/8$, what is the slope of line p ?

- (A) $8/7$
- (B) $7/8$
- (C) $1/8$
- (D) $-7/8$
- (E) $-8/7$

12. Leonard's band charges by performance. Leonard's share H , in dollars, for performance y is given by the function $H(y) = 12y - 6$. If Leonard earned \$42 playing for the band during the month of October, how many performances did the band give?

- (A) 3
- (B) 4
- (C) 5
- (D) 6
- (E) 7

12. If $j = 3k$, for what value of j is $j = k$?

- (A) 0
- (B) $1/3$
- (C) 1
- (D) 3
- (E) j will never equal k .

13. For all x , let $f(x) = (10 - x)^2$. If $z = f(6)$, which of the following must equal $4z$?

- (A) $f(24)$
- (B) $f(18)$
- (C) $f(12)$
- (D) $f(8)$
- (E) $f(4)$

14. A group of travelers are equally sharing the \$30 cost of a taxi to dinner. If an additional person joins the party, each person will owe \$1 less. How many people are currently in the group?

- (A) 15
- (B) 12
- (C) 10
- (D) 6
- (E) 5

15. Chris ran from her house to work at an average speed of 6mph and returned along the same route at an average speed of 4 mph. If the total time she took to run to school and back was one hour, how many minutes did it take her to go from her house to school?

- (A) 16
- (B) 18
- (C) 20
- (D) 22
- (E) 24

16. If a circle has an area that is half the circumference, what is its radius?

- (A) $1/2$
- (B) 1
- (C) 4
- (D) π
- (E) 2π

17. 1 dog and 5 cats must wait in line to see the veterinarian. If the dog cannot stand in the first or last in line, how many different ways can the animals be ordered?

- (A) 120
- (B) 240
- (C) 360
- (D) 480
- (E) 720

18. If $64^{12} = 4^x$, $x=?$

- (A) 4
- (B) 24
- (C) 36
- (D) 72
- (E) 192

Answer Key:**See Tactic and Study Guide Topic**

2.B	PITA, see pg. 16-18
4.D	Plugging-In, see pg. 13-16
7.C	Plugging-In, see pg. 13-16
8.A	Plugging-In, see pg. 13-16
9.C	Geometry (circles) see pg. 19-21
10.C	Geometry (circles) see pg. 19-21
11.B	
11.B	Slope, see pg. 20
12.B	PITA, see pg. 16-18
12.A	PITA, see pg. 16-18
13.B	Functions, see pg. 6
14.E	Average Pie, see pg. 9
15.E	Average Pie, see pg. 9
16.B	Geometry (circles), PITA, see pg. 9-21
17.D	Permutations, see pg. 11-12
18.C	PITA, see pg. 16-18