

SAT Math Practice Test - Full Questions (No Calculator + Calculator)

1. Solve for  $x$ :  $3x + 7 = 25$
2. If  $2y - 5 = 15$ , what is  $y$ ?
3. A line passes through points  $(2, 3)$  and  $(6, 7)$ . What is its slope?
4. The function  $f(x) = 2x^2 - 3x + 1$ . What is  $f(2)$ ?
5. If  $\sqrt{x + 4} = 5$ , what is  $x$ ?
6. Simplify:  $(x^2 - 9) / (x - 3)$
7. Solve for  $x$ :  $2x^2 - 8 = 0$
8. A triangle has sides 6, 8, and 10. Is it a right triangle?
9. The system of equations:  $x + y = 10$  and  $x - y = 4$ . Solve for  $x$ .
10. If the average of 5, 7, 9, and  $x$  is 8, what is  $x$ ?
11. What is the slope of the line perpendicular to  $y = 2x + 3$ ?
12. If  $5x = 3y$ , what is  $y$  in terms of  $x$ ?
13. The solution to  $2x - 7 < 9$  is?
14. If a rectangle has area 24 and length 6, what is its width?
15. Find the value of  $|-12|$ .
16. What is the equation of a line parallel to  $y = -3x + 2$  through  $(0, 5)$ ?
17. Solve:  $(x - 2)(x + 5) = 0$
18. Convert  $3/4$  to a decimal.
19. A circle has radius 7. What is its area? (Use  $\pi = 3.14$ )
20. What is the median of the set  $\{3, 9, 11, 15, 20\}$ ?
21. A shirt originally costs \$50. It is discounted by 30% and then taxed at 8%. What is the final price?
22. A car travels 120 miles in 2 hours. If it continues at the same speed, how long will it take to travel 300 miles?
23. If a right triangle has legs of 5 and 12, what is the hypotenuse?
24. The graph of  $y = ax^2 + bx + c$  passes through  $(0, 4)$ ,  $(1, 2)$ , and  $(2, 4)$ . Find  $a$ ,  $b$ ,  $c$ .
25. A scatterplot shows a line of best fit  $y = 0.5x + 2$ . If  $x = 8$ , what is the predicted value of  $y$ ?
26. Solve:  $\log(x) = 2$ .
27. A student scored 75, 85, 90, and 95 on 4 tests. What is the mean score?
28. A population increases by 5% annually. If it starts at 10,000, what will it be after 2 years?
29. Solve for  $x$ :  $(x - 3)(x + 2) = 0$ .

30. Find the distance between  $(-2, 1)$  and  $(4, 5)$ .
31. A coin is flipped 3 times. What is the probability of getting exactly 2 heads?
32. A cylinder has radius 3 and height 10. Find its volume. (Use  $\pi = 3.14$ )
33. Solve:  $2^{(x+1)} = 16$ .
34. The mean of 6 numbers is 12. If one number is removed, the mean of the remaining 5 is 11. What number was removed?
35. Solve:  $5x - 7 = 3x + 9$ .
36. If  $\sin \theta = 0.6$ , find  $\cos \theta$  ( $\theta$  acute).
37. A train travels at 60 mph for 2.5 hours. How far does it travel?
38. A rectangle has a diagonal of 13 and one side 5. What is the other side?
39. Simplify:  $(x^3)(x^2)$ .
40. If  $4x + 2 = 18$ , what is  $x$ ?
41. A company makes a profit of \$200 per sale. If they sell 75 products, what is the profit?
42. A survey shows 40% of students like math. If 120 students were surveyed, how many like math?
43. Solve for  $x$ :  $(x/3) + 5 = 9$ .
44. Find the equation of the line through  $(1, 2)$  and  $(3, 6)$ .
45. If  $f(x) = 2x - 1$ , what is  $f(-3)$ ?
46. A box contains 5 red and 7 blue balls. One ball is chosen at random. Probability of red?
47. Find the perimeter of a square with area 49.
48. Solve:  $|2x - 5| = 7$ .
49. If  $x^2 = 121$ , what is  $x$ ?
50. A store sells pencils at \$0.50 each. How many pencils can you buy with \$12?
51. If  $3x + 4 = 19$ , what is  $x$ ?
52. The sum of the angles in a polygon with  $n$  sides is  $900^\circ$ . Find  $n$ .
53. A line has slope 4 and passes through  $(0, -1)$ . Write its equation.
54. If  $g(x) = x^2 - 4x$ , find  $g(6)$ .
55. The average of 4 numbers is 20. If 3 of them are 18, 22, and 19, find the 4th.
56. A car rental costs \$40 per day plus \$0.20 per mile. Write an expression for total cost if  $m$  miles are driven in a day.
57. A sphere has radius 6. Find its volume. (Use  $\pi = 3.14$ )
58. If  $\tan \theta = 3/4$ , find  $\sin \theta$  ( $\theta$  acute).