



SAT Math – Full-Length Practice Test Answer Key and Explanations

1. $x=9$. $3x-7=20 \rightarrow 3x=27$.
2. $y-3=4(x-2) \rightarrow y=4x-5$.
3. $x+4$ (difference of squares).
4. $2(25)-3=47$.
5. $x=11$ or $x=-7$.
6. Increase = $10/40 = 25\%$.
7. $5x+2=3x-10 \rightarrow 2x=-12 \rightarrow x=-6$.
8. Hypotenuse = 15.
9. 4200.
10. As x increases, y increases.
11. Add equations $\rightarrow 2x=16 \rightarrow x=8$.
12. $\sqrt{75}=5\sqrt{3}$.
13. $\pi r^2 h = 90\pi$.
14. $x=1$ or $x=-7$.
15. $4^{x+1}=64=4^3 \rightarrow x+1=3 \rightarrow x=2$.
16. Slope = $(7+1)/(9-5)=2$.
17. $f(-2)=-6-8=-14$.

18. $\text{Total}=90 \rightarrow \text{fifth}=26.$

19. $\text{Slope}=3.$

20. $\text{Area}=\pi(7)^2=49\pi.$

21. $\text{Roots: } 2 \text{ and } 8.$

22. $x=150.$

23. $\text{Median}=(7+9)/2=8.$

24. $6.3 \times 10^3.$

25. $0.5833\dots$

26. $2x \leq 16 \rightarrow x \leq 8.$

27. $\text{Speed}=60 \text{ mph}.$

28. $a=4, d=5 \rightarrow a_{11}=4+11 \cdot 5=59.$

29. $6x.$

30. $\text{Yes, } 8^2+15^2=17^2.$

31. $x=18.$

32. $2L+2W=50 \rightarrow W=13.$

33. $7/3.$

34. $P(\text{blue})=5/20=1/4.$

35. $(x-5)(x-4).$

36. $32=2^x \rightarrow x=5.$

37. $y\text{-intercept}=14.$

38. $(n-2)180=1800 \rightarrow n=12.$

39. $((-4+8)/2, (10+2)/2) = (2,6).$

40. $\cos\theta=12/13$.

41. Perpendicular slope = $1/2$.

42. $x+4=81 \rightarrow x=77$.

43. $49-42+5=12$.

44. Range= $15-2=13$.

Prepared by ChatGPT for Math Tutoring AI