ACT Math Mixed Practice

30 mixed questions, easier to harder. Suggested time: 33 minutes

Name _____ Date _____

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1. $a \star b = a + 5b$. Find $6 \star 8$.

2. Find the third angle: $55°$ and $64°$, in degrees.

3. Opposite 8, adjacent 7. Find $\tan A$.

4. Solve: $2x + 5 = 15$

5. A bag has 4 red and 9 blue. Find the probability of red.

6. Find the mode of 7, 27, 7, 35, 7.

7. Find the range of 6, 24, 46.

8. Find the slope of $y = 9x + 2$.

9. You've got 92 and 76. What do you need on a third test to average 73?

10. Working together at 9 and 2 units an hour, how long to make 44 units, in hours?

11. Solve: $\sqrt{x-6} = 9$

12. Find the distance from $(-2, 4)$ to $(4, 12)$.

13. Probability of rain is $\frac{5}{10}$. Find the probability of no rain, as a decimal.

14. A map uses 1 cm for 10 km. How far is 11 cm, in km?

15. Find the median of 3, 8, 12, 17.

16. Solve: $8(x-6) = 2x + -36$

17. A bag has 4 red and 5 blue. Two draws, no replacing. Find the probability both are red.

18. $\tan A = \frac{3}{4}$. Find $\cos A$.

19. Find the period of $y = \sin(5x)$. Use pi.

20. A $60°$ arc with radius 12. Find the arc length. Use pi.

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21. A square has a diagonal of $8\sqrt{2}$. Find its area.

22. A cylinder has radius 5 and height 11. Find its volume. Use pi.

23. Solve: $2^{x+3} = 16$

24. A circle's area doubles. By what factor does the radius change? Leave a root.

25. The line through $(0, 5)$ and $(3, 0)$ has what slope?

26. A rectangle's perimeter is 30 and its length is 11. Find its area.

27. 11 runners. How many ways for 1st and 2nd place?

28. $\cos A = \dfrac{5}{13}$ in a right triangle. Find $\tan A$.

29. If $2x + 9 = 13$, what's $4x$?

30. A box 2 by 3 by 6: find the longest diagonal.

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ACT Math Mixed Practice: Answer Key

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1. 46

   Follow the rule.

2. 61

   $180 - 55 - 64$.

3. $\frac{8}{7}$

   Opposite over adjacent.

4. 5

   Undo 5, then divide.

5. $\frac{4}{13}$

   Want over total.

6. 7

   It appears most.

7. 40

   Max minus min.

8. 9

   Coefficient of x.

9. 51

   Total needed is 3×73.

10. 4

    Rates add: 11 an hour.

11. 87

    $x - 6 = 81$.

12. 10

    6 and 8 make a right triangle.

13. 0.5

    1− it.

14. 110

    Multiply.

15. 10

    Average the two middle values.

16. 2

    Distribute, then gather.

17. $\dfrac{4 \cdot 3}{9 \cdot 8}$

    $\dfrac{4}{9} \cdot \dfrac{3}{8}$.

18. $\dfrac{4}{5}$

    3-4-5 triangle.

19. $\dfrac{2\pi}{5}$

    $\dfrac{2\pi}{5}$.

20. 4π

    $\dfrac{1}{6} \cdot 2\pi r$.

21. 64

    Side 8.

22. 275π

    $\pi r^2 h$.

23. 1

    $x + 3 = 4$.

24. $\sqrt{2}$

    r^2 doubles.

25. $-\dfrac{5}{3}$

    Rise -5, run 3.

26. 44

    Width: $\dfrac{30}{2} - 11$.

27. 110

    11 options, then one fewer.

28. $\dfrac{12}{5}$

    5-12-13 triangle.

29. 8

    $2x = 4$, then scale by 2.

30. 7

    $\sqrt{2^2 + 3^2 + 6^2}$.

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