

Calculus Readiness Test

1. If $\frac{1}{2}$ and $\frac{1}{3}$, then $\frac{1}{\frac{1}{2} + \frac{1}{3}} =$

- a) $\frac{1}{5}$ b) $\frac{5}{2}$ c) $\frac{5}{6}$ d) $\frac{6}{5}$ e) $\frac{1}{6}$

2. In the system of equations $\begin{cases} x + y = 10 \\ x - y = -2 \end{cases}$, $x =$

- a) -8 b) -2 c) 2 d) - e) 9

3. In a room with 35 men, 80% of the occupants are women. How many women are in the room?

- a) 28 b) 63 c) 105 d) 140 e) 175

4. The inequality $x < -7$ or $x > 7$ is equivalent to

- a) $x < -7$ or $x > 7$ b) $1 < x < 7$ c) $-3 < x < 3$
 d) $x < -1$ or $x > 7$ e) $x < 1$ or $x > 7$

5. $\frac{1}{\frac{1}{3} + \frac{1}{4}} =$

- a) 3 b) $\frac{12}{7}$ c) $\frac{7}{12}$ d) $\frac{1}{7}$ e) $\frac{7}{1}$

6. For what value of t does $\frac{1}{t} + \frac{1}{t} = \frac{1}{t}$?

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{4}$ d) $\frac{1}{5}$ e) no solution

7. If $\frac{1}{x} + \frac{1}{x} = \frac{1}{x}$, then $x =$

- a) - b) - c) - d) - e) -

8. $\frac{1}{\frac{1}{2} + \frac{1}{3}} =$

- a) $\frac{5}{6}$ b) $\frac{6}{5}$ c) $\frac{5}{2}$ d) $\frac{2}{5}$ e) 1

Calculus Readiness Test

9. The number _____ is between _____

- a) 0 and 1 b) 1 and 2 c) 2 and 3 d) 3 and 4 e) 4 and 5

10. What is the radian measure of an angle whose degree measure is 72° ?

- a) $\frac{\pi}{3}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{4}$ d) $\frac{\pi}{2}$ e) $\frac{\pi}{5}$

11. If _____ then _____ = _____

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{4}$ d) $\frac{1}{5}$
 e) $\frac{1}{6}$

12. _____ - _____ = _____

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{4}$ d) $\frac{1}{5}$ e) $\frac{1}{6}$

13. If _____ and _____ then _____ = _____

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) 0 d) 2 e) $\frac{1}{4}$

14. The inequality _____ is equivalent to which of the following?

- a) $x < 4$ or $x > -2$ b) $x < -4$ or $x > 2$ c) $-4 < x < 2$
 d) $-2 < x < 4$ e) $x < 4$

15. What number must be added to _____ to form a perfect square?

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{4}$ d) 3 e) 9

16. _____ - _____ = _____

- a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{4}$ d) $\frac{1}{5}$ e) $\frac{1}{6}$

Calculus Readiness Test

17. $\frac{1}{x^2} =$

- a) x^{-2} b) x^{-1} c) x^2 d) x^1 e) x^{-3}

18. The perimeter of a rectangular field is P feet. The width of the field is 200 feet less than its length. In terms of P, what is the length of the field in feet?

- a) $\frac{P}{2}$ b) $\frac{P-200}{2}$ c) $\frac{P+200}{2}$ d) $\frac{P-400}{2}$ e) $\frac{P+400}{2}$

19. Which of the following are the roots of $x^2 - 5x + 6 = 0$?

- a) $2, 3$ b) $3, 2$ c) $1, 6$ d) $6, 1$ e) $0, 6$

20. If $\log_2 x = 3$ and $\log_2 y = 4$, then $x =$

- a) 2^3 b) 2^4 c) 2^7 d) 2^8 e) 2^{12}

21. If $\log_2 w = 5$, then $w =$

- a) 2^5 b) 5^2 c) 2^{10} d) 5^5 e) 2^{25}

22. If $f(x) = 2x + 3$, then its inverse function is

- a) $f^{-1}(x) = \frac{x-3}{2}$ b) $f^{-1}(x) = \frac{x+3}{2}$ c) $f^{-1}(x) = \frac{x-3}{2} + 3$ d) $f^{-1}(x) = \frac{x+3}{2} + 3$ e) $f^{-1}(x) = \frac{x-3}{2} - 3$

23. $\log_2 8 =$

- a) 3 b) 2^3 c) 2^8 d) 8^2 e) 2^{24}

24. $\frac{1}{x^{-2}} =$

- a) x^2 b) x^{-2} c) x^{-4} d) x^4 e) x^{-6}

25. What is the area of the region bounded by the graph of $y = x^2 - 4x + 4$, the x-axis, and the vertical lines $x = 3$ and $x = 5$?

- a) 2 b) 4 c) 7 d) 14 e) 28