

If still incomplete at the end of class on Jan 11, each group members may submit an individual copy on Jan 16

No phones, no calculators.

1. $x - 3(6 + x) = 1 - (x + 2)$
 $x = \underline{\hspace{2cm}}$

3. $\frac{x^2 - 20}{x^2 - 7x + 12} = \frac{3}{x - 3} + \frac{5}{x - 4}$
 $x = \underline{\hspace{2cm}}$

2. $5x(x + 3) = x + 3$
 $x = \underline{\hspace{2cm}}$

4. $(5\sqrt{3} + 1)(3\sqrt{3} - 1) = \underline{\hspace{2cm}}$

5. The equation of the line through the points (0, -2) and (3, 1) is _____

6. The equation of the line through the point (4, -2) and that is parallel to $y = -3x + 3$ is _____

7. The equation of the line perpendicular to $3x + 2y = 9$ and that crosses the graph of $f(x) = 3x^2 - 1$ at its vertex is _____.

8. The area of the region bounded by the x-axis, the y-axis, the graph of the function $y = -3x + 12$, and the line $x = 2$ is _____ square units.

9. The area of the region bounded by $y = 4$ and $y = 2 + |x|$ is _____ square units.

10. The area of the region within the graph of the equation $(x - 2)^2 + y^2 = 4$ on the interval [2,4] is _____ square units.

11. $\lim_{x \rightarrow 4} 3x + 5 = \underline{\hspace{2cm}}$

14. $\lim_{x \rightarrow 0^+} \frac{\sqrt{x}}{x} = \underline{\hspace{2cm}}$

12. $\lim_{x \rightarrow 1} |1 - x| = \underline{\hspace{2cm}}$

15. $\lim_{x \rightarrow 0^-} \frac{\sqrt{x}}{x} = \underline{\hspace{2cm}}$

13. $\lim_{x \rightarrow 1} x + |1 - x| = \underline{\hspace{2cm}}$

16. $\lim_{x \rightarrow 1} x^n = \underline{\hspace{2cm}}$

17. Let M be the slope between (1, 1) and the point (a, a^2) on the graph of $y = x^2$.

a. $\lim_{a \rightarrow 2} M = \underline{\hspace{2cm}}$

b. $\lim_{a \rightarrow 1} M = \underline{\hspace{2cm}}$

18. Let A be the area between the graph of $f(x) = x + 2$ and the x-axis from $x = 2$ to $x = r$.

a. $\lim_{r \rightarrow 6} A = \underline{\hspace{2cm}}$

c. $\lim_{r \rightarrow 2^+} A = \underline{\hspace{2cm}}$

b. $\lim_{r \rightarrow 4} 2A = \underline{\hspace{2cm}}$

d. $\lim_{r \rightarrow 0} A = \underline{\hspace{2cm}}$