

Domain

Problems

1. Find the domain of $\ln(x - 3)$.
2. Find the domain of $\sqrt{3x - 3}$.
3. Find the domain of $\frac{1}{2x+1}$.
4. Find the domain of $\sqrt{3 - x}$.
5. Find the domain of e^{2x+1} .
6. Find the domain of $\sqrt{9 - (2x + 3)^2}$.
7. Find the domain of $\sqrt{(3x + 1)^2 - 4}$.
8. Find the domain of $\sqrt{4 - (1 - 2x)^2}$.

Range

Problems

9. Find the range of $2e^x + 1$.
10. Find the range of $6 \sin x + 3$.
11. Find the range of $-2 \cos x + 1$.
12. Find the range of $5 \arctan(x) - \pi$.
13. Find the range of $\frac{3}{x+2} - 1$.
14. Find the range of $2 \arcsin(6x) + 1$.
15. Find the range of $2 - \arccos(3x + 2)$.
16. Find the range of $-4\sqrt{x} + 2$.

Tangent Lines

Problems

17. Find the tangent line to $3x - 2$ at $x = -2$.
18. Find the tangent line to $-x^2$ at $x = 1$.
19. Find the tangent line to $\frac{1}{2x}$ at $x = -4$.
20. Find the tangent line to x^3 at $x = -1$.
21. Find the tangent line to \sqrt{x} at $x = 9$.
22. Find the tangent line to $6e^x$ at $x = 2$.
23. Find the tangent line to $4 \cdot 7^x$ at $x = 1$.
24. Find the tangent line to $(e^x + 2)(e^x - 2)$ at $x = 2$.
25. Find the tangent line to $\frac{x^2-9}{x-3}$ at $x = 0$.
26. Find the tangent line to $\sqrt[3]{x}/\sqrt{x}$ at $x = 1$.