

MCS22 Homework 1

Determine over what interval the function is increasing and decreasing.

1. $f(x) = 3x + 1$

2. $f(x) = -2x + 1$

3. $f(x) = x^2 - 4x + 7$

4. $f(x) = 1 - 4x - x^2$

5. $f(x) = \sqrt{1 - x^2}$

6. $f(x) = \frac{\sqrt{9 - x^2}}{3}$

7. $f(x) = x^3 - 9x^2 + 15x - 3$

8. $f(x) = x + \frac{1}{x}$

9. $f(x) = x^4 - 8x^2 + 16$

10. $f(x) = \sqrt[3]{x^2}$