

2. Evaluating algebraic expressions

Practice Problems

Evaluate the following algebraic expressions for the indicated values of the variables (no calculator allowed)

1. $3x - 5$ when $x = -2$ -11
2. $2x^2 - 5x + 7$ when $x = 3$ 10
3. $3x^2y - 4xy^2 + xy + y - 3$ when $x = -1$ and $y = 4$ 73
4. $\frac{3x^3 + 2x^2}{5x - 2}$ when $x = 1$ $\frac{5}{3}$
5. $4\sqrt{x^2 + 9}$ when $x = 4$ 20
6. $\frac{4x^2 + 1}{x^2 - 1}$ when $x = -1$ undefined
7. $\frac{5x + 10}{x - 2}$ when $x = -2$ 0
8. $5x + 1$ when $x = -5$ -24
9. $4x^3 - 3x^2 + 5x + 6$ when $x = -3$ -144
10. $2x^2y^2 - x^3 + 3xy - 6x + 1$ when $x = 2$ and $y = -1$ -17
11. $\frac{2x^2 + 3x - 4}{4x + 2}$ when $x = -2$ $\frac{1}{3}$
12. $\frac{4x + 12}{x - 3}$ when $x = -3$ 0
13. $\frac{2\sqrt{3x + 4}}{x - 1}$ when $x = 4$ $\frac{8}{3}$
14. $\frac{x^2 - 4}{x - 2}$ when $x = 2$ undefined
15. $\frac{5x + 1}{x - 1}$ when $x = 1$ undefined