Domains of Functions - Practice (and solutions)

Find the domain of each of the following functions and write your result using interval notation.

1. $f(x) = 2x - 3$

2. $g(x) = 3x^3 - 5x^2 + 3x - 5$

3. $f(x) = \sqrt{4 - x}$

4. $f(x) = x^4 + 2$

5. $g(x) = \dfrac{4}{1 - x}$

6. $f(x) = \dfrac{-2}{x}$

7. $f(x) = \dfrac{-3}{4 - x^2}$

8. $f(x) = \dfrac{-3}{4 + x^2}$

9. $f(x) = \dfrac{2x - 1}{x^2 + 4x}$

10. $g(x) = \dfrac{6x}{3x^2 + 9x + 6}$

11. $f(x) = \sqrt{x - 2}$

12. $g(x) = \sqrt{3x + 2}$

13. $f(x) = \sqrt[3]{4 - x}$

14. $f(x) = \sqrt[4]{4 - x}$

15. $f(x) = \sqrt[5]{4 - x}$

16. $f(x) = \dfrac{1}{\sqrt{x + 2}}$

17. $g(x) = \dfrac{3x^2}{\sqrt{4 - x}}$

18. $g(x) = \dfrac{3x}{\sqrt{4 - x^2}}$

Answers

1) $(-\infty, \infty)$

2) $(-\infty, \infty)$

3) $(-\infty, 4]$

4) $(-\infty, \infty)$

5) $(-\infty, 1) \cup (1, \infty)$

6) $(-\infty, 0) \cup (0, \infty)$

7) $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$

8) $(-\infty, \infty)$

9) $(-\infty, -4) \cup (-4, 0) \cup (0, \infty)$

10) $(-\infty, -2) \cup (-2, -1) \cup (-1, \infty)$

11) $[2, \infty)$

12) $\left[-\frac{2}{3}, \infty\right)$

13) $(-\infty, \infty)$

14) $(-\infty, 4]$

15) $(-\infty, \infty)$

16) $[-2, \infty)$

17) $(-\infty, 4)$

18) $(-2, 2)$