

Domain Worksheet/Section 1.7

Find the Domain of the following functions expressed in Set and Interval Notation.

1. $f(x) = \frac{3x-5}{x+2}$

9. $k(x) = 2^{x-2}$

2. $f(x) = \frac{\sqrt{x-1}}{x-4}$

10. $f(x) = \frac{\sqrt{x-4}}{x^2-7x+12}$

3. $g(x) = \log_6(x) + 7$

11. $n(t) = \sqrt{\frac{t}{1+t}}$

4. $h(x) = \frac{1}{x} - \frac{3}{x-2}$

12. $x(y) = y^4 + 2y + \sqrt{y} + \frac{1}{y}$

5. $g(x) = -\frac{3}{\sqrt{4-x}}$

13. $r(x) = \ln|x+3| - 5$

6. $h(x) = \sqrt{289-x^2}$

14. $u(x) = \frac{1}{x-\sqrt{x+2}}$

7. $p(x) = \sqrt[3]{x-8}$

15. $h(x) = \sqrt[4]{x^5 + 64x^2}$

8. $t(x) = \log_3(x-5)$

Domain Worksheet Solutions:

1) $\{x \mid x \neq -2\} (-\infty, -2) \cup (-2, \infty)$

9) $\{x \mid x \in \mathbb{R}\} (-\infty, \infty)$

2) $\{x \mid x \geq 1, x \neq 4\} [1, 4) \cup (4, \infty)$

10) $\{x \mid x > 4\} (4, \infty)$

3) $\{x \mid x > 0\} (0, \infty)$

11) $\{t \mid t < -1 \text{ or } t \geq 0\} (-\infty, -1) \cup [0, \infty)$

4) $\{x \mid x \neq 0, x \neq 2\} (-\infty, 0) \cup (0, 2) \cup (2, \infty)$

12) $\{y \mid y > 0\} (0, \infty)$

5) $\{x \mid x < 4\} (-\infty, 4)$

13) $\{x \mid x < -3 \text{ or } x > -3\} (-\infty, -3) \cup (-3, \infty)$

6) $\{x \mid -17 \leq x \leq 17\} [-17, 17]$

14) $\{x \mid -2 \leq x < 2 \text{ or } x > 2\} [-2, 2) \cup (2, \infty)$

7) $\{x \mid x \in \mathbb{R}\} (-\infty, \infty)$

15) $\{x \mid x \geq -4\} [-4, \infty)$

8) $\{x \mid x > 5\} (5, \infty)$