

7.1 Rational Functions DAY TWO CYU

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Domain in interval notation.	1, 2	3, 4	5, 6
Simplifying Rational Expressions	7 - 9	10 - 12	13 - 17

Find the domain of each rational expression in interval notation.

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

$(-\infty, \infty)$

2. $g(x) = -\frac{5x+x^2}{3x}$

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

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

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

4. $R(x) = \frac{-2}{2x+5}$

$(-\infty, -\frac{5}{2}) \cup (-\frac{5}{2}, \infty)$

5. $C(x) = \frac{3+2x}{2x^2-14x+20}$

$(-\infty, 2) \cup (2, 5) \cup (5, \infty)$

6. $h(x) = \frac{x+3}{x^2-4}$

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

Simplify each expression. Restrict the domain in interval notation too.

7. $\frac{x-7}{7-x}$

-1

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

8. $\frac{y+9}{9+y}$

1

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

9. $\frac{3}{9x+6}$

$\frac{1}{3x+2}$

$(-\infty, -\frac{2}{3}) \cup (-\frac{2}{3}, \infty)$

$$10. \frac{-5a-5b}{a+b} \quad \boxed{-5}$$

no
Domain
restriction

$$11. \frac{x+5}{x^2-4x-45}$$

$$\boxed{\frac{1}{x-9}}$$

$$D: (-\infty, -5) \cup (-5, 9) \cup (9, \infty)$$

$$12. \frac{12x^2+4x-1}{2x+1}$$

$$\boxed{6x-1}$$

$$D: (-\infty, -\frac{1}{2}) \cup (-\frac{1}{2}, \infty)$$

$$13. \frac{x^3+7x^2}{x^2+5x-14}$$

$$\boxed{\frac{x^2}{x-2}}$$

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

$$14. \frac{x^4-10x^3}{x^2-17x+70}$$

$$\boxed{\frac{x^3}{x-7}}$$

$$D: (-\infty, 7) \cup (7, 10) \cup (10, \infty)$$

$$15. \frac{ab+ac+b^2+bc}{b+c}$$

$$\boxed{a+b}$$

no domain
restriction

$$16. \frac{24y^2-8y^3}{15y-5y^2}$$

$$\boxed{\frac{8y}{6}}$$

$$D: (-\infty, 0) \cup (0, 3) \cup (3, \infty)$$

$$17. \frac{4-x^2}{x-2}$$

$$\boxed{-(x+2) \cup -x-2}$$

$$D: (-\infty, 2) \cup (2, \infty)$$

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

