

Do Now

a) Multiply $(x - 3)(x + 3)$

b) $\frac{0}{5} = ?$

c) $\frac{5}{0} = ?$

d) $\frac{0}{0} = ?$

Aim: Restrictions with Variables in the Denominator

1. Mavis says that the expression $\frac{5}{x+2}$ has a meaningful value for whatever value one chooses to assign to x . Do you agree? Explain.

2. Rewrite the following as a compound statement $\frac{4}{2x-8}$.

3. For what value(s) of x is $\frac{6x}{3x-1}$ undefined?

4. For what value(s) of x is $\frac{x+4}{x^2-9}$ undefined?

5. Write an expression with the restrictions:

a. $x \neq 7$

b. $x \neq -3$

c. $x \neq 0$

6. Consider: $\frac{x^2 - 25}{(x^2 - 9)(x + 4)}$.

a. Is it permissible to let $x = 5$ in this expression?

b. Is it permissible to let $x = 3$ in this expression?

c. Give all the values of x that are *not* permissible in this expression.

Directions: For the following examples determine which value(s) of "x" would make the fraction undefined.

7. $\frac{x}{x - 5}$	8. $\frac{4}{x + 12}$	9. $\frac{5z}{2z - 1}$
10. $\frac{y + 1}{x^2 - 81}$	11. $\frac{x + 3}{3x - 12}$	12. $\frac{x + 16}{6x + 6}$
13. $\frac{x^2 - 5x - 35}{x^2 - 64}$	14. $\frac{x^2 - 100}{3x + 9}$	15. $\frac{y + 1}{4 - x}$

HW# _____

<p>1. The function $y = \frac{x^2 + 25}{x^2 - 121}$ is undefined when the value of x is</p> <p>1) 0 or 11 2) 11 or -11 3) 11, only 4) -11 only</p>	<p>2. Which expression is undefined when $w = 3$?</p> <p>1) $\frac{w-3}{w+1}$ 2) $\frac{w^2+2w}{5w}$ 3) $\frac{w+1}{w^2-3w}$ 4) $\frac{3w}{3w^2}$</p>
<p>3. Which value of n makes the expression $\frac{10n}{21n-3}$ undefined?</p>	<p>4. For which set of values of x is the algebraic equation $\frac{2x+4}{2x+4} = 12$ undefined?</p>

TEXTBOOK**P61 14,16,18 (Hint for #18: Rewrite using the distributive property)****P77 7,35****P78 43**