

Name _____

Find any values of the variable that make the expression undefined.

1) $\frac{4y - 5}{y^2 - 36}$

2) $\frac{x^2 - 16}{x^2 + 17x + 72}$

Write the expression in lowest terms.

3) $\frac{(y + 2)(y - 3)}{(y - 3)(y + 9)}$

4) $\frac{4x + 2}{20x^2 + 18x + 4}$

5) $\frac{m^2 - 9m}{9 - m}$

6) $\frac{s^2 + d^2}{s - d}$

Multiply and reduce to lowest terms.

7) $\frac{7x^2}{3} \cdot \frac{18}{x^3}$

8) $\frac{k^2 + 8k + 15}{k^2 + 9k + 18} \cdot \frac{k^2 + 6k}{k^2 - 2k - 35}$

Divide and reduce to lowest terms.

9) $\frac{4x^2}{5} \div \frac{x^3}{25}$

10) $\frac{z^2 - 9}{z} \div \frac{z + 3}{z - 8}$

Simplify and reduce to lowest terms.

11) $\frac{5}{21} - \frac{1}{21}$

12) $\frac{4}{8x^2} + \frac{6}{8x^2}$

13) $\frac{2x + 8}{x^2 + 8x + 15} - \frac{x + 3}{x^2 + 8x + 15}$

14) $\frac{5x}{x + 4} + \frac{7x - 8}{x + 4} - \frac{4x}{x + 4}$

Solve the problem.

- 15) The farther someone is from a light source, the less intense its light. The equation
- $I = \frac{21}{4d^2}$

approximates the light intensity from a certain light source at a distance of d meters, where I is measured in watts per square meter. Find I for $d = 2$ meters and interpret the result.

Answer Key

Testname: WKS_14.1_14.2_14.3

1) 6, -6

2) -8, -9

3) $\frac{y+2}{y+9}$

4) $\frac{1}{5x+2}$

5) -m

6) Cannot reduce

7) $\frac{42}{x}$

8) $\frac{k}{k-7}$

9) $\frac{20}{x}$

10) $\frac{(z-3)(z-8)}{z}$

11) $\frac{4}{21}$

12) $\frac{5}{4x^2}$

13) $\frac{1}{x+3}$

14) $\frac{8x-8}{x+4}$

15) $\frac{21}{16} = 1.3125$; the intensity is 1.3125 W/m^2 at 2 m.