

Name _____

Simplify.

1) $\frac{\frac{4}{3}}{\frac{1}{6}}$

2) $\frac{\frac{2}{x}}{\frac{r}{z}}$

3) $\frac{\frac{x^8}{7y^7}}{\frac{x^2}{y^4}}$

4) $\frac{\frac{1}{k+2}}{\frac{5}{k^2-4}}$

5) $\frac{4 + \frac{2}{x}}{\frac{x}{3} + \frac{1}{6}}$

6) $\frac{\frac{2}{x} + \frac{3}{y}}{\frac{3}{x} - \frac{2}{y}}$

7) $\frac{x^{-4} + y^{-4}}{x^{-1} + y^{-1}}$

8) $\frac{x^{-2} - 4y^{-2}}{7y - 14x}$

Solve the equation.

$$9) \frac{x}{4} = \frac{7x}{8}$$

$$10) \frac{2y+3}{y} = \frac{3}{2}$$

$$11) \frac{8}{x-9} = \frac{3}{x+1}$$

$$12) \frac{x}{3} - \frac{x}{5} = 7$$

$$13) \frac{3}{x} + \frac{4}{x} = 7$$

$$14) \frac{4}{x-4} + \frac{1}{2x-8} = \frac{9}{2}$$

$$15) \frac{8}{y+2} - \frac{6}{y-2} = \frac{12}{y^2-4}$$

$$16) \frac{y}{y+4} + \frac{8y+28}{y^2+7y+12} = \frac{4}{y+3}$$

$$17) \frac{1}{x+6} + \frac{4}{x+5} = \frac{-1}{x^2+11x+30}$$

Solve the formula for the specified letter.

$$18) A = \frac{1}{2}h(B+b) \text{ for } b$$

$$19) \frac{1}{a} + \frac{1}{b} = c \text{ for } b$$

Solve.

20) Martha can rake the leaves in her yard in 4 hours. Her younger brother can do the job in 6 hours. How long will it take them to do the job if they work together?

21) A plane flies 450 miles with the wind and 310 miles against the wind in the same length of time. If the speed of the wind is 21 mph, what is the speed of the plane in still air?

Answer Key

Testname: WKS_14.5_14.6A_B

1) 8

2) $\frac{2z}{xr}$

3) $\frac{x^6}{7y^3}$

4) $\frac{k-2}{5}$

5) $\frac{12}{x}$

6) $\frac{2y+3x}{3y-2x}$

7) $\frac{y^4+x^4}{x^3y^4+x^4y^3}$

8) $\frac{y+2x}{7x^2y^2}$

9) 0

10) -6

11) -7

12) $\frac{105}{2}$

13) 1

14) 5

15) 20

16) No solutions

17) No solutions

18) $b = \frac{2A - Bh}{h}$

19) $b = \frac{a}{ac - 1}$

20) $\frac{12}{5}$ hr

21) 114 mph