

8.5 worksheet

Simplify each expression.

1) $\frac{2}{12x^3y^3} + \frac{x+5y}{12x^3y^3}$

2) $\frac{4}{12a^2} - \frac{a+5b}{12a^2}$

3) $\frac{x-6y}{8x^2y^2} + \frac{5x}{8x^2y^2}$

4) $\frac{x-4y}{10y} + \frac{x+5y}{10y}$

5) $\frac{m-3n}{8m^2n^2} + \frac{m+n}{8m^2n^2}$

6) $\frac{k+2}{k^2+10k+25} + \frac{5}{k^2+10k+25}$

7) $\frac{a+1}{2a^3-8a^2} - \frac{a+8}{2a^3-8a^2}$

8) $\frac{n-2}{n^2-6n+9} + \frac{7}{n^2-6n+9}$

9) $\frac{x+3}{14x^2+56x} - \frac{x-4}{14x^2+56x}$

10) $\frac{8x+7}{x^2+7x+12} + \frac{x-1}{x^2+7x+12}$

11) $\frac{x-7}{x-6} + \frac{7x}{5}$

12) $\frac{2}{3} - \frac{n+4}{14n-10}$

13) $\frac{2m}{3m+9} - \frac{7m}{4}$

14) $\frac{5}{n+3} - \frac{8}{n+1}$

15) $\frac{7p}{p-7} - \frac{6p}{3p+7}$

16) $\frac{6x}{3x} - \frac{x-4}{8x^2+20x-100}$

17) $\frac{3}{35x^2-17x+2} + \frac{5}{3}$

18) $\frac{8m}{6m^2-4m-42} - \frac{7}{8}$

- 19) You subscribe to a satellite television service. The monthly cost for programming is \$43, and there is a one-time installation fee of \$50. The average monthly cost c of the service is given by $c = \frac{43t+50}{t}$ where t is the time (in months) that you have subscribed to the service. For what subscription times is the average monthly cost at most \$47.

Answers to 8.5 worksheet

$$1) \frac{2 + x + 5y}{12x^3y^3}$$

$$9) \frac{1}{2x^2 + 8x}$$

$$17) \frac{19 + 175x^2 - 85x}{3(5x - 1)(7x - 2)}$$

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

$$11) \frac{-37x - 35 + 7x^2}{5(x - 6)}$$

19) at least 13 months

$$5) \frac{m - n}{4m^2n^2}$$

$$13) \frac{-55m - 21m^2}{12(m + 3)}$$

$$7) -\frac{7}{2a^3 - 8a^2}$$

$$15) \frac{15p^2 + 91p}{(p - 7)(3p + 7)}$$