

Card 1

Factor each expression completely.

1) $6x^3 + 18x^2 - 10x$

2)

2) $x^{16} - 81$

Card 2

Determine which value(s) make the fraction undefined and then simplify.

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

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

5) $\frac{3x^2-4x}{2x^2-5x-3}$

Card 3

Find the product or quotient in simplest form.

6) $\frac{3x^2-6x}{9x^2} \div \frac{3x^2-4x-4}{4-9x^2}$

7) $\frac{m^2-m-42}{2m+12} \cdot \frac{3m^2-m}{3m^2-22m+7}$

Card 4

Find the sum or difference in simplest form.

8) 17) $\frac{6x+10}{x^2+x-2} - \frac{2x+2}{x^2+x-2}$

9) 18) $\frac{r}{r-5} - \frac{5}{r}$

10) 19) $\frac{6}{x^2+9x+18} + \frac{3}{x+3}$

Card 5

Simplify the complex fractions.

11) $\frac{\frac{2}{x-5} - \frac{3}{x+5}}{\frac{2}{x^2-25}}$

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

Card 6

Simplify each of the following operations:

$$13) \frac{2x^2 - 7x + 3}{7x^2 - 28x} \div \frac{2x - 6}{16 - x^2} \cdot \frac{28x^3}{x^2 + 10x + 24}$$

$$14) \frac{1}{x+1} + \frac{x}{x-6} - \frac{5x-2}{x^2-5x-6}$$

$$15) \frac{3 - \frac{m-2}{6}}{\frac{4}{9} + \frac{2}{m}}$$

16) The area of a rectangular garden is

represented by $\frac{2c^2 - 5c - 3}{c^2 - 9}$ and its width

is represented by $\frac{6c^2 + c - 1}{4c + 12}$. Find the

length in simplest form.