

Algebraic Fractions Review

AF 1: Evaluate for the given value.

1) $\frac{n-4}{n^2-16}$, $n=4$

0

2) $\frac{x^2-14x+40}{50+5x-x^2}$, $x=2$

 $\frac{2}{7}$

3) $\frac{16k^2}{12k}$, $k=-1$

 $-\frac{4}{3}$

4) $\frac{x^2-17x+70}{3x^3-24x^2+21x}$ $x=5$

 $-\frac{1}{12}$ **AF 2: Find the excluded values**

5) $\frac{r-7}{r^2-12r+35}$

 $\{7, 5\}$

6) $\frac{10n-8}{14}$

No excluded values.

7) $\frac{b^2+8b-20}{b^2-12b+20}$

 $\{10, 2\}$

8) $\frac{3x^3-9x^2-84x}{x^2+2x-63}$

 $\{7, -9\}$ **AF 3: Simplify:**

9) $\frac{4n^2-14n}{16n^3}$

 $\frac{2n-7}{8n^2}$

10) $\frac{a^2-a-12}{2a^3-4a^2-30a}$

 $\frac{a-4}{2a(a-5)}$

AF 4: Add or Subtract and Simplify

$$11) \frac{3}{3a} - \frac{6}{2a+6}$$
$$\frac{-2a+3}{a(a+3)}$$

$$12) \frac{5n}{3n} + \frac{n+2}{3n-6}$$
$$\frac{6n-8}{3(n-2)}$$

$$13) \frac{6}{2} - \frac{2n-3}{n-3}$$
$$\frac{n-6}{n-3}$$

$$14) \frac{a+3}{a+6} - \frac{4}{5}$$
$$\frac{a-9}{5(a+6)}$$

AF 5: Multiplying and Dividing

$$15) 8m \cdot \frac{7m}{8m^2 - 8m}$$
$$\frac{7m}{m-1}$$

$$16) \frac{49v-49}{7v+7} \cdot \frac{10}{7v-7}$$
$$\frac{10}{v+1}$$

$$17) (2v+7) \div \frac{2v^2-3v-35}{5v+40}$$
$$\frac{5(v+8)}{v-5}$$

$$18) \frac{15k-30}{7k^2-56k+49} \div \frac{5k-10}{21k-21}$$
$$\frac{9}{k-7}$$

$$19) \frac{2b^2-12b+16}{30b^3-40b^2} \cdot \frac{30b^3-40b^2}{2b^2+2b-12}$$
$$\frac{b-4}{b+3}$$

$$20) \frac{24x^3-72x^2}{2x^2-2} \div \frac{12x^2-36x}{8x^2-8x}$$
$$\frac{8x^2}{x+1}$$