Review 4.1-4.2

Simplify each expression.

1) $\dfrac{6p^2 - 12p}{p - 2}$

2) $\dfrac{5v^2 - 41v + 42}{2v^2 - 6v - 56}$

3) $\dfrac{3x^2 + x - 24}{5x^3 + 19x^2 + 12x}$

4) $\dfrac{5k}{10k^2 - 10k} \cdot \dfrac{6k - 6}{5k}$

5) $\dfrac{28p - 8}{4} \cdot \dfrac{10}{7p - 2}$

6) $(3r + 3) \cdot \dfrac{6r^2}{9r^3 + 9r^2}$

7) $\dfrac{r^2 + 12r + 27}{r^2 - 4r - 60} \cdot \dfrac{r^2 - 4r - 60}{r^2 + 16r + 63}$

8) $\dfrac{6a + 48}{30a + 30} \cdot \dfrac{5a^2 - 5}{6a^2}$

9) $\dfrac{63r - 72}{7r^2 - 15r + 8} \cdot \dfrac{12r^2 - 36r}{18r - 54}$

10) $\dfrac{x - 10}{6x + 6} \div \dfrac{1}{x + 1}$

11) $\dfrac{n + 1}{5n^2 + 17n - 40} \div \dfrac{1}{5n - 8}$

12) $\dfrac{9m - 45}{6m^2} \div \dfrac{9m - 72}{6m^2}$

13) $\dfrac{5p^3 + 25p^2}{p^2 + 4p - 45} \div \dfrac{p^2 + 6p + 5}{p^2 - 4p - 5}$

14) $\dfrac{6x + 8}{2x + 18} \div \dfrac{15x^2 + 20x}{5x^2 + 10x}$

15) $\dfrac{12r - 54}{8r - 36} \div \dfrac{1}{4r - 4}$

16) $\dfrac{\dfrac{a + 4}{5}}{\dfrac{5}{36}}$

17) $\dfrac{\dfrac{x - 4}{9}}{\dfrac{x + 5}{x - 4}}$

18) $\dfrac{\dfrac{1}{2}}{\dfrac{16}{u + 5}}$

19) $\dfrac{\dfrac{3}{x + 6}}{\dfrac{3x - 2}{3}}$

20) $\dfrac{\dfrac{x - 4}{x + 6}}{\dfrac{25}{x + 6}}$

Review 4.1-4.2

Simplify each expression.

1) $\dfrac{6p^2 - 12p}{p - 2}$

$6p$

2) $\dfrac{5v^2 - 41v + 42}{2v^2 - 6v - 56}$ $\dfrac{5v - 6}{2(v + 4)}$

3) $\dfrac{3x^2 + x - 24}{5x^3 + 19x^2 + 12x}$ $\dfrac{3x - 8}{x(5x + 4)}$

4) $\dfrac{5k}{10k^2 - 10k} \cdot \dfrac{6k - 6}{5k}$ $\dfrac{3}{5k}$

5) $\dfrac{28p - 8}{4} \cdot \dfrac{10}{7p - 2}$

10

6) $(3r + 3) \cdot \dfrac{6r^2}{9r^3 + 9r^2}$

2

7) $\dfrac{r^2 + 12r + 27}{r^2 - 4r - 60} \cdot \dfrac{r^2 - 4r - 60}{r^2 + 16r + 63}$ $\dfrac{r + 3}{r + 7}$

8) $\dfrac{6a + 48}{30a + 30} \cdot \dfrac{5a^2 - 5}{6a^2}$ $\dfrac{(a + 8)(a - 1)}{6a^2}$

9) $\dfrac{63r - 72}{7r^2 - 15r + 8} \cdot \dfrac{12r^2 - 36r}{18r - 54}$ $\dfrac{6r}{r - 1}$

10) $\dfrac{x - 10}{6x + 6} \div \dfrac{1}{x + 1}$ $\dfrac{x - 10}{6}$

11) $\dfrac{n + 1}{5n^2 + 17n - 40} \div \dfrac{1}{5n - 8}$ $\dfrac{n + 1}{n + 5}$

12) $\dfrac{9m - 45}{6m^2} \div \dfrac{9m - 72}{6m^2}$ $\dfrac{m - 5}{m - 8}$

13) $\dfrac{5p^3 + 25p^2}{p^2 + 4p - 45} \div \dfrac{p^2 + 6p + 5}{p^2 - 4p - 5}$ $\dfrac{5p^2}{p + 9}$

14) $\dfrac{6x + 8}{2x + 18} \div \dfrac{15x^2 + 20x}{5x^2 + 10x}$ $\dfrac{x + 2}{x + 9}$

15) $\dfrac{12r - 54}{8r - 36} \div \dfrac{1}{4r - 4}$

$6(r - 1)$

16) $\dfrac{\dfrac{a + 4}{5}}{\dfrac{5}{36}}$ $\dfrac{36a + 144}{25}$

17) $\dfrac{\dfrac{x - 4}{9}}{\dfrac{x + 5}{x - 4}}$ $\dfrac{x^2 - 8x + 16}{9x + 45}$

18) $\dfrac{\dfrac{1}{2}}{\dfrac{16}{u + 5}}$ $\dfrac{u + 5}{32}$

19) $\dfrac{\dfrac{3}{x + 6}}{\dfrac{3x - 2}{3}}$ $\dfrac{9}{3x^2 + 16x - 12}$

20) $\dfrac{\dfrac{x - 4}{x + 6}}{\dfrac{25}{x + 6}}$ $\dfrac{x - 4}{25}$