Intermediate Algebra Skill

Simplifying Rational Expressions

Simplify each expression.

1) $\dfrac{a^2 - 3a - 4}{a^2 - 13a + 36}$

2) $\dfrac{6n + 15}{21n + 24}$

3) $\dfrac{2p^2 + 15p + 18}{2p^2 + 3p - 54}$

4) $\dfrac{5a^2 + 16a + 12}{2a^2 + 3a - 2}$

5) $\dfrac{18p^3 + 12p^2 - 96p}{30p^3 + 72p^2 + 24p}$

6) $\dfrac{18x^3 + 81x^2 + 63x}{63x^3 + 9x^2 - 54x}$

7) $\dfrac{6k^3 + 4k^2 - 80k}{21k^3 + 63k^2 - 84k}$

8) $\dfrac{63 + 40b - 7b^2}{7b^2 - 50b + 7}$

9) $\dfrac{3n^3 - 3n^2 - 3n + 3}{2n^2 - 9n + 7}$

10) $\dfrac{14v^3 - 136v^2 + 90v}{14v^2 - 138v + 108}$

Answers to Simplifying Rational Expressions

1) $\dfrac{a+1}{a-9}$

2) $\dfrac{2n+5}{7n+8}$

3) $\dfrac{2p+3}{2p-9}$

4) $\dfrac{5a+6}{2a-1}$

5) $\dfrac{(3p+8)(p-2)}{(5p+2)(p+2)}$

6) $\dfrac{2x+7}{7x-6}$

7) $\dfrac{2(3k-10)}{21(k-1)}$

8) $\dfrac{(9+7b)\cdot -1}{7b-1}$

9) $\dfrac{3(n+1)(n-1)}{2n-7}$

10) $\dfrac{v(7v-5)}{7v-6}$