

#8 Simplifying Radical Expressions

Simplify each and state the excluded values.

1) $\frac{72x^4}{54x^3}$

2) $\frac{48x^2}{60x^3}$

3) $-\frac{20v^2}{15v}$

4) $\frac{30k^2}{12k^4}$

Simplify each expression.

5) $\frac{3n^2 + 24n}{n^2 + 3n - 40}$

6) $\frac{-n^2 + 12n - 35}{n^2 - 4n - 21}$

7) $\frac{5n^3 + 50n^2 + 45n}{4n^3 + 26n^2 - 90n}$

8) $\frac{7p^2 - 15p + 8}{15p^3 - 3p^2 - 12p}$

9) $\frac{7}{6} \cdot \frac{7p^2}{5}$

10) $\frac{7}{9} \cdot \frac{8}{5r}$

$$11) \frac{4v^3 + 20v^2}{v - 5} \cdot \frac{v^2 - 25}{4v^3 + 20v^2}$$

$$12) \frac{4n - 8}{n^2 + 12n + 32} \cdot \frac{16 - 6n - n^2}{4n - 8}$$

$$13) 20n \cdot \frac{-n^2 + 12n - 32}{n^2 - 12n + 32}$$

$$14) \frac{x^2 + 2x - 3}{x + 9} \cdot \frac{24x^2}{3 - 2x - x^2}$$

$$15) \frac{5}{7} \div \frac{9p^2}{2}$$

$$16) \frac{3}{6a^2} \div \frac{6}{10}$$

$$17) \frac{7n^3 - 28n^2}{n - 3} \div \frac{n^2 - 16}{n^2 - 7n + 12}$$

$$18) \frac{3v^2 + 21v}{18} \div \frac{3v^2 + 21v}{v + 5}$$

$$19) \frac{a^2 - 3a - 10}{a^2 - 13a + 40} \div \frac{a + 2}{8a^3 + 80a^2}$$

$$20) \frac{21n + 70}{12n + 40} \div \frac{n^2 + 2n - 80}{80 - 2n - n^2}$$