

Section 7.1

Simplify each expression.

1) $\frac{90a}{50a^2}$

2) $\frac{36n^5}{54n^4}$

3) $\frac{132x^2y^3}{66x^3y}$

4) $\frac{30m^2n}{70m^3n^2}$

5) $\frac{18a^3b^3c^2}{9a^2bc^4}$

6) $\frac{16x^3y^2z^5}{24x^3y^4}$

7) $\frac{1}{2m} \cdot \frac{m^2 - 10m + 24}{m - 6}$

8) $\frac{1}{b + 5} \cdot \frac{6b + 30}{b - 5}$

9) $\frac{a^2 - 9a + 20}{a - 5} \cdot \frac{5}{a - 4}$

10) $\frac{r + 6}{r^2 + 14r + 48} \cdot \frac{r^2 + 15r + 56}{6}$

11) $\frac{1}{72b^2 - 8b^3} \cdot \frac{b^2 - 5b - 36}{b + 4}$

12) $\frac{x^2 - 3x - 18}{x^2 - 2x - 15} \cdot \frac{x - 5}{9}$

13) $\frac{n^2 - 4n + 3}{n^2 - 6n + 5} \cdot \frac{n^2 + 2n - 35}{n^2 + 2n - 15}$

14) $\frac{x^2 - x - 6}{x^2 - 9} \cdot \frac{x^2 - x - 12}{2x + 4}$

15) $\frac{b^2 - 3b - 70}{b^2 + 17b + 70} \cdot \frac{9b + 90}{b - 10}$

16) $\frac{9x - 36}{x^2 + 5x - 24} \cdot \frac{x^2 + 5x - 24}{x - 4}$

$$17) \frac{1}{n-1} \div \frac{n+2}{n^2+7n+10}$$

$$18) \frac{1}{2a-18} \div \frac{a+3}{a^2-18a+81}$$

$$19) \frac{8n^2-8n}{8n} \div \frac{n^2-2n+1}{n-4}$$

$$20) \frac{v^2-15v+54}{6v-54} \div \frac{v+9}{6}$$

$$21) \frac{2n+16}{n^2-n-72} \div \frac{2}{n^2-14n+45}$$

$$22) \frac{\frac{6x+42}{2}}{\frac{30x+54}{35x+63}}$$

$$23) \frac{2x-8}{x-9} \div \frac{2x+14}{x^2-2x-63}$$

$$24) \frac{n+8}{6n^2+48n} \div \frac{4n-32}{n^2-10n+16}$$

$$25) \frac{p-6}{9p^2+9p} \div \frac{p^2-14p+48}{80-10p}$$

$$26) \frac{5n+5}{45n^2} \div \frac{n^2+5n+4}{n+4}$$

$$27) \frac{\frac{x+2}{12x-4}}{\frac{x+2}{16}}$$

$$28) \frac{\frac{x}{x+4}}{\frac{x^2}{x+4}}$$

$$29) \frac{\frac{x+3}{35}}{\frac{x+3}{25}}$$

$$30) \frac{\frac{3u+6}{u-2}}{\frac{u+2}{9}}$$