

Simplifying Rational Expressions Assignment

Simplify each and state the excluded values.

1)
$$\frac{25n^2 - 45n}{10n^2 + 5n}$$

2)
$$\frac{x^2 + 7x + 12}{2x^2 + 6x}$$

3)
$$\frac{4x - 32}{x^2 - 12x + 32}$$

4)
$$\frac{x^2 - 9x + 8}{9x - 9}$$

5)
$$\frac{35b + 15}{35b + 50}$$

6)
$$\frac{49r - 63}{21r + 21}$$

$$7) \frac{b^2 - 36}{b^2 - 4b - 12}$$

$$8) \frac{k^2 - 1}{k^2 - 7k + 6}$$

$$9) \frac{n^2 + 14n + 49}{9n^2 + 63n}$$

$$10) \frac{10x - 40}{x^2 - 16}$$

$$11) \frac{b + 2}{7b^2 + 9b - 10}$$

$$12) \frac{a + 3}{9a^2 + 27a}$$

$$13) \frac{3x^2 + 21x + 18}{x + 6}$$

$$14) \frac{x + 2}{9x + 18}$$

$$15) \frac{12a + 20}{24}$$

$$16) \frac{3a^3 - 45a^2 + 162a}{2a^3 - 12a^2}$$

$$17) \frac{45a^2 + 72a - 36}{27a - 18}$$

$$18) \frac{3p^2 - 42p + 144}{p^2 + 3p - 54}$$

$$19) \frac{15b^2 - 21b}{6b^3 + 30b^2 + 36b}$$

$$20) \frac{2n^3 + 34n^2 + 144n}{3n^2 + 24n - 27}$$

Answers to Simplifying Rational Expressions Assignment

- 1) $\frac{5n-9}{2n+1}; \left\{0, -\frac{1}{2}\right\}$ 2) $\frac{x+4}{2x}; \{0, -3\}$ 3) $\frac{4}{x-4}; \{8, 4\}$ 4) $\frac{x-8}{9}; \{1\}$
5) $\frac{7b+3}{7b+10}; \left\{-\frac{10}{7}\right\}$ 6) $\frac{7r-9}{3(r+1)}; \{-1\}$ 7) $\frac{b+6}{b+2}; \{6, -2\}$ 8) $\frac{k+1}{k-6}; \{6, 1\}$
9) $\frac{n+7}{9n}; \{0, -7\}$ 10) $\frac{10}{x+4}; \{4, -4\}$ 11) $\frac{1}{7b-5}; \left\{\frac{5}{7}, -2\right\}$ 12) $\frac{1}{9a}; \{0, -3\}$
13) $3(x+1); \{-6\}$ 14) $\frac{1}{9}; \{-2\}$ 15) $\frac{3a+5}{6};$ No excluded values.
16) $\frac{3(a-9)}{2a}; \{0, 6\}$ 17) $\frac{(5a-2)(a+2)}{3a-2}; \left\{\frac{2}{3}\right\}$ 18) $\frac{3(p-8)}{p+9}; \{6, -9\}$
19) $\frac{5b-7}{2(b+3)(b+2)}; \{0, -3, -2\}$ 20) $\frac{2n(n+8)}{3(n-1)}; \{1, -9\}$