

Factoring and Rational Expressions Practice Quiz

Date _____ Period _____

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Factor each completely.

1) $5x^2 + 40x - 100$

2) $6m^2 + 54m + 84$

3) $n^2 - 12n + 35$

4) $n^2 - 16$

5) $x^2 - x - 6$

6) $k^2 + 12k + 36$

7) $v^3 - v$

8) $3m^3 - 27m^2$

9) $2n^2 + 24n + 54$

10) $3p^3 - 15p^2$

Simplify each expression.

$$11) \frac{20b}{12b^2}$$

$$12) \frac{28v}{21v - 21}$$

$$13) \frac{35x + 21}{49}$$

$$14) \frac{n^2 - 5n - 6}{n^2 - 13n + 42}$$

$$15) \frac{n^2 + 2n - 63}{3n + 27}$$

$$16) \frac{3k^2 - 30k + 63}{3k^2 - 45k + 168}$$

$$17) \frac{90p^3}{90p^2}$$

$$18) \frac{45x^2 + 63x}{27x^2 - 9x}$$

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Factor each completely.

1) $5x^2 + 40x - 100$

$5(x + 10)(x - 2)$

2) $6m^2 + 54m + 84$

$6(m + 7)(m + 2)$

3) $n^2 - 12n + 35$

$(n - 7)(n - 5)$

4) $n^2 - 16$

$(n - 4)(n + 4)$

5) $x^2 - x - 6$

$(x + 2)(x - 3)$

6) $k^2 + 12k + 36$

$(k + 6)^2$

7) $v^3 - v$

$v(v - 1)(v + 1)$

8) $3m^3 - 27m^2$

$3m^2(m - 9)$

9) $2n^2 + 24n + 54$

$2(n + 9)(n + 3)$

10) $3p^3 - 15p^2$

$3p^2(p - 5)$

Simplify each expression.

$$11) \frac{20b}{12b^2}$$
$$\frac{5}{3b}$$

$$12) \frac{28v}{21v - 21}$$
$$\frac{4v}{3(v - 1)}$$

$$13) \frac{35x + 21}{49}$$
$$\frac{5x + 3}{7}$$

$$14) \frac{n^2 - 5n - 6}{n^2 - 13n + 42}$$
$$\frac{n + 1}{n - 7}$$

$$15) \frac{n^2 + 2n - 63}{3n + 27}$$
$$\frac{n - 7}{3}$$

$$16) \frac{3k^2 - 30k + 63}{3k^2 - 45k + 168}$$
$$\frac{k - 3}{k - 8}$$

$$17) \frac{90p^3}{90p^2}$$
$$p$$

$$18) \frac{45x^2 + 63x}{27x^2 - 9x}$$
$$\frac{5x + 7}{3x - 1}$$