

Name: _____

Factoring Polynomials

Factorize each polynomial

1 $12x^3 + 42x^2 - 30x$

2 $c^2 + 11c + 18$

3 $y^2 - y - 72$

4 $9q^2 - 54q + 72$

5 $2r^2 - 3r - 35$

6 $2y^2 + 13y + 21$

7 $x^2 - 10x + 25$

8 $b^2 - 10b - 600$

9 $p^2 + 72 - 17p$

10 $6a^4 - 3a^3 + 4a^2 - 2a$

11 $3a^3 - 9a^2 - 54a$

12 $x^2 + 20x + 75$

Name:

Factoring Polynomials

Answers

1 $12x^3 + 42x^2 - 30x$

$6x(2x^2 + 7x - 5)$

3 $y^2 - y - 72$

$(y + 8)(y - 9)$

5 $2r^2 - 3r - 35$

$(2r + 7)(r - 5)$

7 $x^2 - 10x + 25$

$(x - 5)^2$

9 $p^2 + 72 - 17p$

$(p - 8)(p - 9)$

11 $3a^3 - 9a^2 - 54a$

$3a(a + 3)(a - 6)$

2 $c^2 + 11c + 18$

$(c + 2)(c + 9)$

4 $9q^2 - 54q + 72$

$9(q - 2)(q - 4)$

6 $2y^2 + 13y + 21$

$(y + 3)(2y + 7)$

8 $b^2 - 10b - 600$

$(b + 20)(b - 30)$

10 $6a^4 - 3a^3 + 4a^2 - 2a$

$a(2a - 1)(3a^2 + 2)$

12 $x^2 + 20x + 75$

$(x + 5)(x + 15)$