

Factor each polynomial by factoring out the GCF.

1.  $24x + 6$

$$6(4x + 1)$$

2.  $10x^2 - 15x$

$$5x(2x - 3)$$

3.  $3x^2 - 9$

$$3(x^2 - 3)$$

4.  $4x^3 + 8x^2 - x$

$$x(4x^2 + 8x - 1)$$

5.  $2x^4 + 14x^3 - 60x^2$

$$2x^2(x^2 + 7x - 30)$$

6.  $3x^2 + 21x + 48$

$$3(x^2 + 7x + 16)$$

Factor into the product of two binomials.

7.  $a^2 + 3a + 2$

$$(a + 2)(a + 1)$$

8.  $x^2 - 11x + 10$

$$(x - 10)(x - 1)$$

9.  $y^2 - 6y + 8$

$$(y - 4)(y - 2)$$

10.  $y^2 - 9y + 8$

$$(y - 8)(y - 1)$$

11.  $y^2 + 9y + 8$

$$(y + 8)(y + 1)$$

12.  $y^2 - 2y - 8$

$$(y - 4)(y + 2)$$

13.  $y^2 + 2y - 8$

$$(y + 4)(y - 2)$$

14.  $a^2 - 7a - 8$

$$(a - 8)(a + 1)$$

15.  $y^2 + 7y - 8$

$$(y + 8)(y - 1)$$

16.  $x^4 + x^2 - 30$

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

17.  $x^4 - 16x^2 - 36$

$$(x^2 + 2)(x^2 - 18)$$

18.  $z^6 + 17z^3 + 42$

$$(z^3 + 3)(z^3 + 14)$$

Factor into the product of two binomials.

19.  $x^2 - 81$

$$(x + 9)(x - 9)$$

20.  $4x^2 - 9$

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

21.  $64 - 100y^2$

$$(8 - 10y)(8 + 10y)$$

22.  $m^2 - 36$

$$(m + 6)(m - 6)$$

23.  $121a^2 - 1$

$$(11a - 1)(11a + 1)$$

24.  $169p^2 - 225$

$$(13p - 15)(13p + 15)$$