

P-287 Factoring Difference
of Squares Feb. 14

$$\begin{aligned} 17. \quad & 64 - x^2 \\ &= (8 + x)(8 - x) \end{aligned}$$

$$\begin{aligned} 19. \quad & s^2 - t^2 \\ &= (s + t)(s - t) \end{aligned}$$

23.

$$4a^2 - 9b^2$$

$$= (2a - 3b)(2a + 3b)$$

$$= 4a^2 + \cancel{6ab} - \cancel{6ab} - 9b^2$$

$$= 4a^2 - 9b^2$$

27.

$$16 - x^2$$

$$= (4 - x)(4 + x)$$

$$32. \quad 144 - 121x^2$$

$$= (12 - 11x)(12 + 11x)$$

$$33. \quad 169 - 100t^2$$

$$= (13 - 10t)(13 + 10t)$$

$$\sqrt{169}$$

Factor, if possible

35. $\sqrt{6x^2 - 25}$

Not possible

39. $\sqrt{x^2 y^2 - 4}$
 $= (xy + 2)(xy - 2)$

$$41. (a+b)^2 - (a-b)^2$$

$$= [(a+b) + (a-b)][(a+b) - (a-b)]$$

$$43. \underline{2m^2 - 50}$$

$$= 2(m^2 - 25)$$

$$= 2(m+5)(m-5)$$

$$9a^2 - 16$$

46

$$\frac{8a^2 - 50}{2}$$

$$= 2(\sqrt{4a^2} - \sqrt{25})$$

$$= 2(2a - 5) (2a + 5)$$

p289 Special Products - Perfect Squares

$$1. (-7)^2$$

$$= 49$$

$$4. (-12)^2$$

$$144$$

$$7. (11y)^2$$

$$= 121y^2$$

$$21. (y-10)^2$$

$$= (y-10)(y-10)$$

$$= y^2 - 10y - 10y + 100$$

$$= y^2 - 20y + 100$$

$$28. (3a-1)^2$$

$$= (3a-1)(3a-1)$$

$$= 9a^2 - 3a - 3a + 1$$

$$= 9a^2 - 6a + 1$$

$$29. \quad (5x+2)^2 \quad \text{FOIL}$$

$$= (5x+2)(5x+2)$$

$$= 25x^2 + 10x + 10x + 4$$

$$= 25x^2 + 20x + 4$$

$$34. \quad (4x-3y)^2$$

$$= (4x-3y)(4x-3y)$$

$$= 16x^2 - 12xy - 12xy + 9y^2$$

$$= 16x^2 - 24xy + 9y^2$$

$$\begin{aligned}
 37. \quad & x^2 + 14x + 49 \quad \times 49 \\
 & = (x+7)(x+7) \quad + 14 \\
 & = (x+7)^2
 \end{aligned}$$

$$38. \quad x^2 - 16x + 64$$

$$\begin{array}{l}
 16 \\
 + -16 \\
 -8, -8
 \end{array}$$

$$\begin{aligned}
 & = (x-8)(x-8) \\
 & = (x-8)^2
 \end{aligned}$$

$$39. \quad \overbrace{(a^2 + 12a + 9)} \quad \times 36$$

$$(2a + 3) (2a + 3) \quad + 12$$

$$4a^2 + 6a + 6a + 9 \quad 6, 6$$

$$4a^2 + 12a + 9$$

Homework finish p. 287
p. 28a