

P3 Extra Practice: Factoring Trinomials

Factor each completely.

$$1) n^2 - 14n + 45 \quad \begin{array}{l} \_x\_ = 45 \\ \_+ \_ = -14 \end{array}$$

$$= \boxed{(n-5)(n-9)}$$

$$2) v^2 - 9v + 20 \quad \begin{array}{l} \_x\_ = 20 \\ \_+ \_ = -9 \end{array}$$

$$= \boxed{(v-4)(v-5)}$$

$$3) x^2 - 5x + 4 \quad \begin{array}{l} \_x\_ = 4 \\ \_+ \_ = -5 \end{array}$$

$$= \boxed{(x-4)(x-1)}$$

$$4) x^2 + 4x - 32 \quad \begin{array}{l} \_x\_ = -32 \\ \_+ \_ = 4 \end{array}$$

$$= \boxed{(x+8)(x-4)}$$

$$5) a^2 + 7a + 12 \quad \begin{array}{l} \_x\_ = 12 \\ \_+ \_ = 7 \end{array}$$

$$= \boxed{(a+4)(a+3)}$$

$$6) n^2 + 16n + 60 \quad \begin{array}{l} \_x\_ = 60 \\ \_+ \_ = 16 \end{array}$$

$$= \boxed{(n+6)(n+10)}$$

$$7) 4k^2 - 52k + 120 \quad \begin{array}{l} \_x\_ = 30 \\ \_+ \_ = -13 \end{array}$$

$$= 4(k^2 - 13k + 30)$$

$$= \boxed{4(k-3)(k-10)}$$

$$8) 3a^2 - 21a - 54 \quad \begin{array}{l} \_x\_ = -18 \\ \_+ \_ = -7 \end{array}$$

$$= 3(a^2 - 7a - 18)$$

$$= \boxed{3(a-9)(a+2)}$$

$$9) 5x^2 - 70x + 240 \quad \begin{array}{l} \_x\_ = 48 \\ \_+ \_ = -14 \end{array}$$

$$= 5(x^2 - 14x + 48)$$

$$= \boxed{5(x-8)(x-6)}$$

$$10) 6n^2 - 66n + 60 \quad \begin{array}{l} \_x\_ = 10 \\ \_+ \_ = -11 \end{array}$$

$$= 6(n^2 - 11n + 10)$$

$$= \boxed{6(n-1)(n-10)}$$

$$11) x^2 - 16xy + 63y^2 \quad \begin{array}{l} \_x\_ = 63 \\ \_+ \_ = -16 \end{array}$$

$$= \boxed{(x-9y)(x-7y)}$$

$$12) 6x^2 + 48xy - 54y^2 \quad \begin{array}{l} \_x\_ = -9 \\ \_+ \_ = 8 \end{array}$$

$$= 6(x^2 + 8xy - 9y^2)$$

$$= \boxed{6(x+9y)(x-1y)}$$