

# Math 10: 3.5 + 3.6 Practice

Name: \_\_\_\_\_

Key

Date: \_\_\_\_\_

## 3.5 Worksheet

### Factor

1)  $x^2 + 10x + 16$

$$(x+8)(x+2)$$

2)  $y^2 + 4y - 21$

$$(y+7)(y-3)$$

3)  $p^2 - 6p - 7$

$$(p-7)(p+1)$$

4)  $n^2 - 2n + 1$

$$(n-1)(n-1)$$

$$= (n-1)^2$$

5)  $t^2 + t - 42$

$$(t+7)(t-6)$$

6)  $k^2 + 10k + 25$

$$(k+5)(k+5)$$

$$= (k+5)^2$$

7)  $-12 + q^2 - q$

$$q^2 - q - 12$$

$$(q-4)(q+3)$$

8)  $3x + x^2 - 28$

$$x^2 + 3x - 28$$

$$(x+7)(x-4)$$

9)  $4 + 5y + y^2$

$$y^2 + 5y + 4$$

$$(y+4)(y+1)$$

10)  $m^2 - 3mn + 2n^2$

$$(m-2n)(m-n)$$

11)  $x^2 - 7xy - 30y^2$

$$(x-10y)(x+3y)$$

12)  $2x^2 + 26x + 24$

$$2(x^2 + 13x + 12)$$

$$2(x+12)(x+1)$$

13)  $-3p^2 - 12p + 36$

$$-3(p^2 + 4p - 12)$$

$$-3(p+6)(p-2)$$

14)  $k + 56 - k^2$

$$-k^2 + k + 56$$

$$-(k^2 - k - 56)$$

$$-(k-8)(k+7)$$

15)  $8x + 4x^2 - 60$

$$4x^2 + 8x - 60$$

$$4(x^2 + 2x - 15)$$

$$4(x+5)(x-3)$$

## 3.6 Practice

Factor

$$\begin{aligned} \textcircled{1} \quad & 2x^2 + 3x - 9 \\ & \underline{2x^2 + 6x - 3x - 9} \\ & 2x(x+3) - 3(x+3) \\ & (x+3)(2x-3) \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & 5x^2 - 6x - 8 \\ & 5x^2 - 10x + 4x - 8 \\ & 5x(x-2) + 4(x-2) \\ & (x-2)(5x+4) \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & -6x^2 - 15x + 21 \\ & -3(2x^2 + 5x - 7) \\ & -3(2x^2 - 2x + 7x - 7) \\ & -3(2x(x-1) + 7(x-1)) \\ & -3(x-1)(2x+7) \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & 4x^2 + 22x + 24 \\ & 2(2x^2 + 11x + 12) \\ & 2(2x^2 + 8x + 3x + 12) \\ & 2(2x(x+4) + 3(x+4)) \\ & 2(x+4)(2x+3) \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & 7x + 3x^2 + 2 \\ & 3x^2 + 7x + 2 \\ & 3x^2 + 6x + x + 2 \\ & 3x(x+2) + 1(x+2) \\ & (x+2)(3x+1) \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & 60 - 2x^2 - 2x \\ & -2x^2 - 2x + 60 \\ & -2(x^2 + x - 30) \\ & -2(x+6)(x-5) \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & 6x^2 + x - 1 \\ & 6x^2 + 3x - 2x - 1 \\ & 3x(2x+1) - 1(2x+1) \\ & (2x+1)(3x-1) \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad & 12x - 4 - 5x^2 \\ & -5x^2 + 12x - 4 \\ & -(5x^2 - 12x + 4) \\ & -(5x^2 - 10x - 2x + 4) \\ & -(5x(x-2) - 2(x-2)) \\ & -(x-2)(5x-2) \end{aligned}$$