

10-3 Circles Reteaching Worksheet Key

$$1. \quad x^2 + y^2 - 10y = 0 \quad \begin{array}{l} \frac{1}{2}(-10) \\ (-5)^2 \end{array}$$

$$x^2 + y^2 - 10y + 25 = 0 + 25$$

$$x^2 + (y-5)^2 = 25$$

$$\boxed{C(0, 5) \quad r=5}$$

$$a. \quad x^2 + y^2 = 225$$

$$\boxed{r=15 \quad C(0, 0)}$$

$$3. \quad (x^2 + 2x + 1) + (y^2 - 6y + 9) = 15$$

$$(x+1)^2 + (y-3)^2 = 25 \quad \begin{array}{l} +1 \\ +9 \end{array}$$

$$\boxed{C(-1, 3) \quad r=5}$$

$$4. \quad (x^2 + 12x + 36) + (y^2 + 14y + 49) = 84$$

$$(x+6)^2 + (y+7)^2 = 1 \quad \begin{array}{l} +36 \\ +49 \end{array}$$

$$\boxed{C(-6, -7) \quad r=1}$$

$$5. \quad (x^2 + 2x + 1) + (y^2 + 4y + 4) = 31$$

$$(x+1)^2 + (y+2)^2 = 36 \quad \begin{array}{l} +1 \\ +4 \end{array}$$

$$\boxed{C(-1, -2) \quad r=6}$$

$$6. \quad (x^2 - 10x + 25) + (y^2 - 4y + 4) = -20$$

$$(x-5)^2 + (y-2)^2 = 9 \quad \begin{array}{l} +25 \\ +4 \end{array}$$

$$\boxed{C(5, 2) \quad r=3}$$

$$7. \quad (x^2 + 16x + 64) + (y^2 - 8y + 16) = -72$$

$$(x+8)^2 + (y-4)^2 = 8 \quad \begin{array}{l} +64 \\ +16 \end{array}$$

$$\boxed{C(-8, 4) \quad r = \sqrt{8} = 2\sqrt{2}}$$

$$8. \quad (x^2 - 8x + 16) + (y^2 + 6y + 9) = -5$$

$$(x-4)^2 + (y+3)^2 = 20 \quad \begin{array}{l} +16 \\ +9 \end{array}$$

$$\boxed{C(4, -3) \quad r = \sqrt{20} = 2\sqrt{5}}$$

$$9. \quad (x^2 - 4x + 4) + (y^2 - 6y + 9) = -4$$

$$(x-2)^2 + (y-3)^2 = 9 \quad \begin{array}{l} +4 \\ +9 \end{array}$$

$$\boxed{C(2, 3) \quad r=3}$$

$$10. \quad x^2 + 8x + 16 + y^2 = 47$$

$$(x+4)^2 + y^2 = 63 \quad \begin{array}{l} +16 \\ +16 \end{array}$$

$$\boxed{C(-4, 0) \quad r = \sqrt{63} = 3\sqrt{7}}$$

OVER