

#1)

$$\frac{2x^2}{2} - \frac{5x}{2} + \frac{10}{2} = \frac{0}{2}$$

$$x^2 - \frac{5}{2}x = -5$$

②  $-\frac{5}{2} \cdot \frac{1}{2} = -\frac{5}{4}$

③  $(-\frac{5}{4})^2 = \frac{25}{16}$

$$x^2 - \frac{5}{2}x + \frac{25}{16} = -\frac{5}{4} + \frac{25}{16}$$

$$(x - \frac{5}{4})^2 = \frac{-80 + 25}{16} = \frac{-55}{16}$$

$$\sqrt{(x - \frac{5}{4})^2} = \pm \sqrt{\frac{-55}{16}}$$

$$x - \frac{5}{4} = \pm \frac{i\sqrt{55}}{4}$$

$$x = \frac{5}{4} \pm \frac{i\sqrt{55}}{4}$$

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#2) Center:  $(\frac{h}{2}, -\frac{k}{5})$

Pt on Circle:  $(-7, -1)$

$$(x-2)^2 + (y+5)^2 = 97$$

$$d = \sqrt{(-7-2)^2 + (-1-(-5))^2}$$

$$= \sqrt{(-9)^2 + (4)^2}$$

$$= \sqrt{81 + 16}$$

$$= \sqrt{97}$$

$(x-h)^2 + (y-k)^2 = r^2$

$$d = \sqrt{97} = r$$

$$\rightarrow (97)^2 = 97$$

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#3)

$$x^2 + 2x + y^2 = 55 + 10y$$

$$x^2 + 2x + y^2 - 10y = 55$$

$$x^2 + 2x + 1 + y^2 - 10y + 25 = 55 + 1 + 25$$

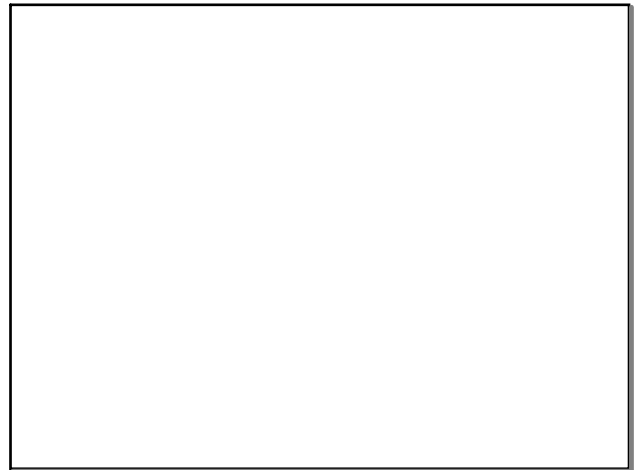
$$(x+1)^2 + (y-5)^2 = 81$$

$$(x+1)^2 + (y-5)^2 = 81$$

Center:  $(-1, 5)$

$r = 9$

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#24

$\frac{7+17}{2}, \frac{-4-4}{2}$

$\frac{24}{2}, -\frac{8}{2}$

$y = -4$   $(12, -4)$

$x=7$   $x=17$

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$d =$

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