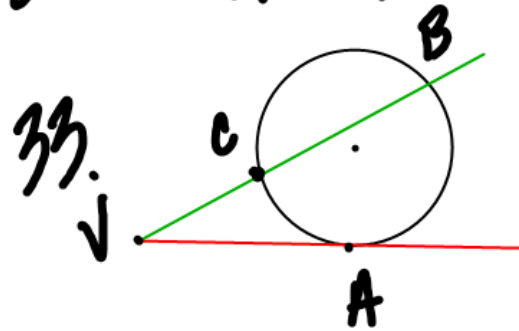


30 exterior

31 2 secant segments

32.  $AV \cdot BV = CV \cdot DV$



34.  $BV \cdot CV = AV^2$

whole (outside) = tangent<sup>2</sup>

35. interior

36 2 chords

37.  $AV \cdot VB = CV \cdot VD$

# 9.6 Equations of Circles

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

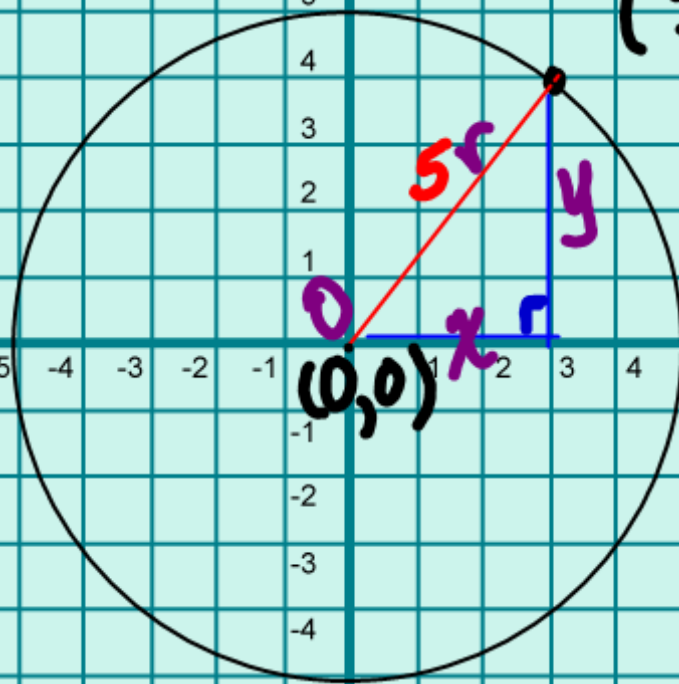
$$d = \sqrt{(3 - 0)^2 + (4 - 0)^2}$$

$$d = \sqrt{3^2 + 4^2}$$

$$d = \sqrt{9 + 16}$$

$$d = \sqrt{25}$$

$$d = 5$$



$$a^2 + b^2 = c^2$$

$$x^2 + y^2 = r^2$$

(3,4)

$$x^2 + y^2 = 5^2$$

$$x^2 + y^2 = 25$$

Center of Circle

(0,0)

$$x^2 + y^2 = r^2$$

X

Y

$$r = 2$$

Center at (0,0)

$$x^2 + y^2 = 2^2$$

$$x^2 + y^2 = 4$$

$$x^2 + y^2 = r^2$$



$$x^2 + y^2 = r^2$$

$$x^2 + y^2 = 49$$

Center (0,0)

Radius  $r=7$

$$x^2 + y^2 = 8$$

Center (0,0)

Radius  $r=\sqrt{8}$

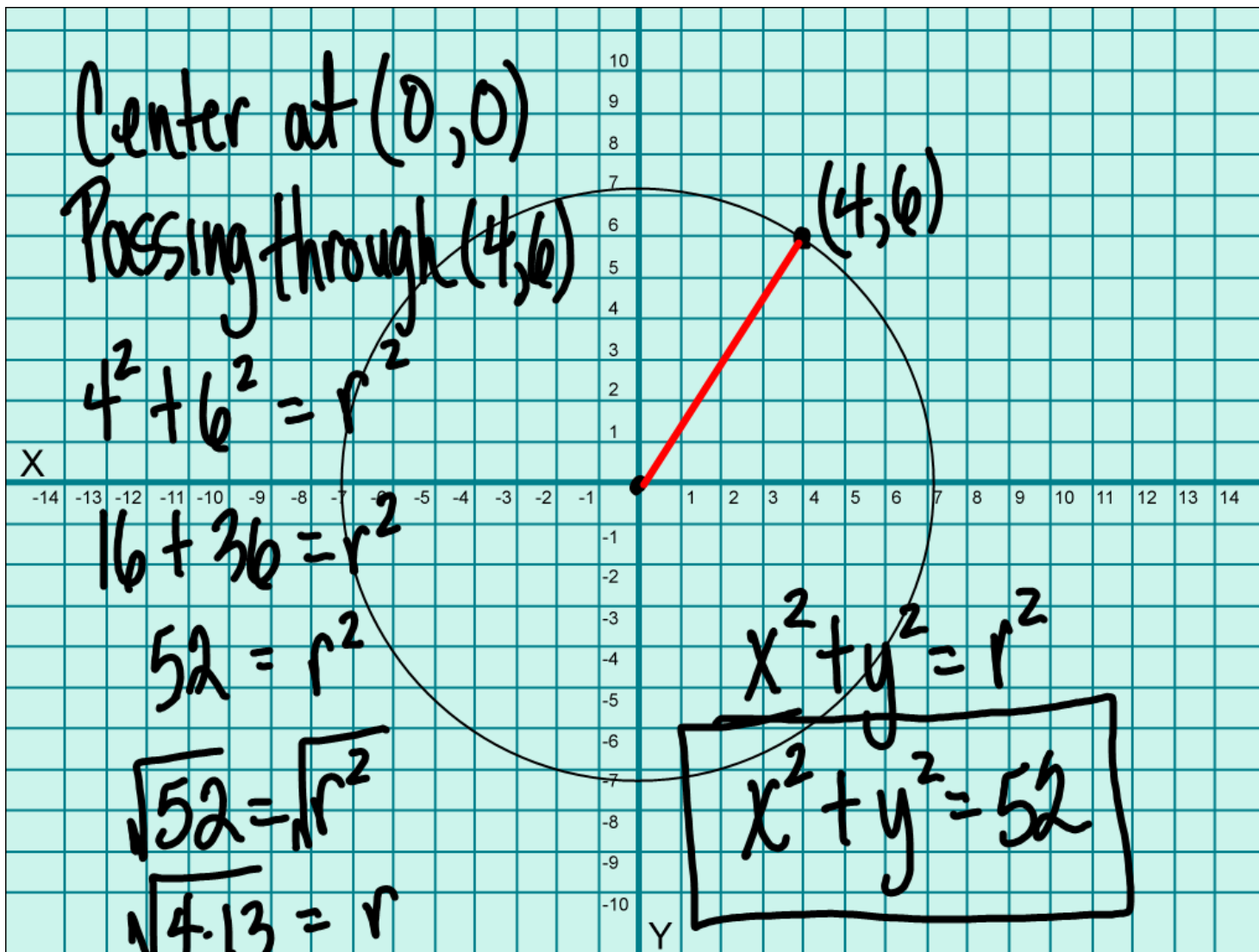
$$\frac{1.8}{2.4}$$

$$\sqrt{4 \cdot 2}$$

$$\sqrt{4} \sqrt{2}$$

$$r = 2\sqrt{2}$$

$$r \approx 2.83$$



Center  $(h, k)$ 

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

$$(x-4)^2 + (y-1)^2 = 4$$

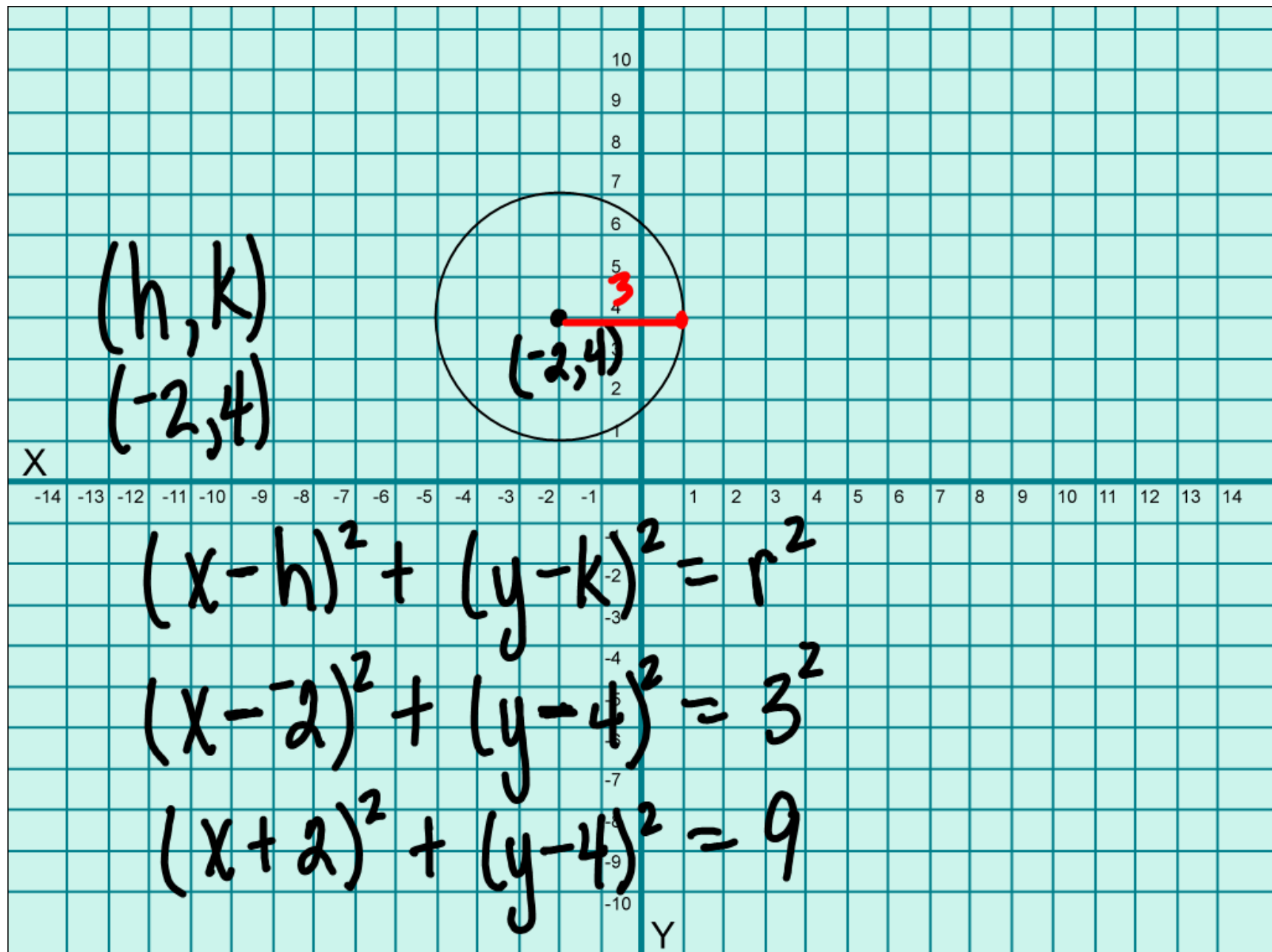
Center  $(4, 1)$   
 $(h, k)$   
 $(x, y)$ Radius  $r=2$ 

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

$$(x-2)^2 + (y+3)^2 = 25$$

$$(x-2)^2 + (y-3)^2 = 5^2$$

Center  $(2, -3)$ Radius  $r=5$





Center  $(-2, -1)$

Radius  $\sqrt{5}$   $(\sqrt{5})^2$

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

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

$(0,0)$  Center

$r=b$  Radius

$$(x-0)^2 + (y-0)^2 = b^2$$

$$x^2 + y^2 = 3b$$

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