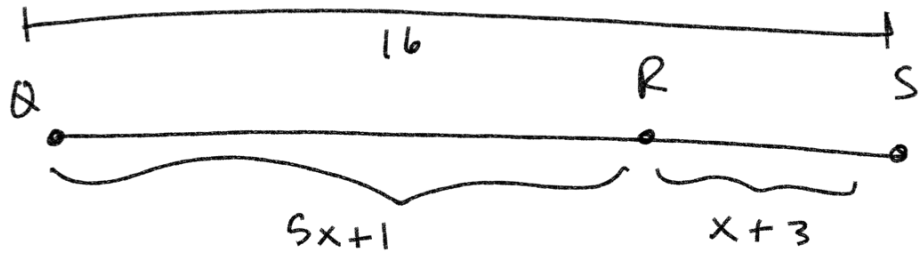
W-G Geometry 9/28 Week 4



(SAP)

Segment Addition Postulate

$\overline{QR} = 5x+1$

$\overline{RS} = x+3$

$\overline{QS} = 16$

$\overline{QR} + \overline{RS} = \overline{QS}$

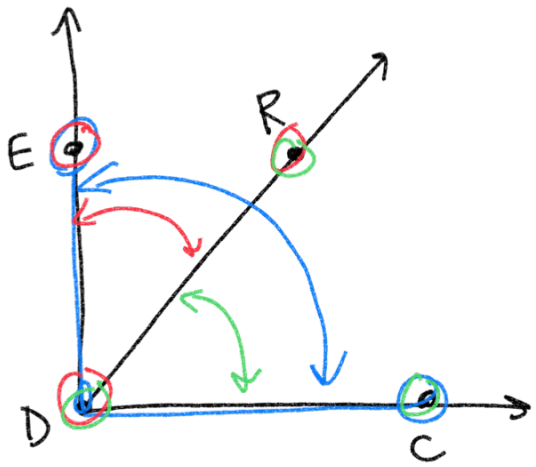
$5x+1 + x+3 = 16$

$6x+4 = 16$

$-4 \quad -4$

$\frac{6x}{6} = \frac{12}{6}$

$\boxed{x=2}$



$\boxed{\measuredangle EDC} = 8x+13$

$\boxed{\measuredangle EDR} = 3x+3$

$\boxed{\measuredangle RDC} = 55°$ (AAP)

Angle Addition Postulate

$\measuredangle EDR + \measuredangle RDC = \measuredangle EDC$

$3x+3 + 55 = 8x+13$

$3x+58 = 8x+13$

$-3x \qquad -3x$

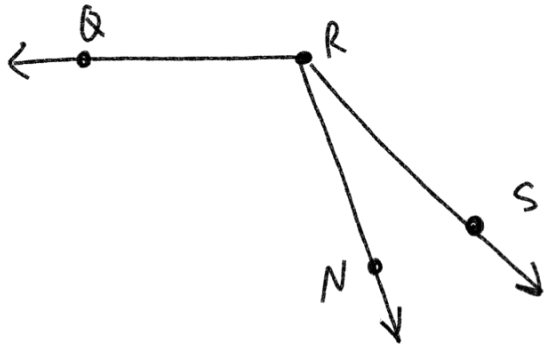
$58 = 5x+13$

$-13 \qquad -13$

$\frac{45}{5} = \frac{5x}{5}$

$\boxed{x=9}$

1.)



$\measuredangle NRQ = 42x + 5$

$\measuredangle SRQ = 155°$

$\measuredangle SRN = 8x$

$\measuredangle NRQ + \measuredangle SRN = \measuredangle SRQ$

$42x + 5 + 8x = 155$

$50x + 5 = 155$

$-5 \quad -5$

$\frac{50x}{50} = \frac{150}{50}$ $\boxed{x = 3}$

2.)

$\overline{ST} = 8x + 1$

$\overline{TU} = 3x - 1$

$\overline{SU} = 11$

$\overline{ST} + \overline{TU} = \overline{SU}$

$8x + 1 + 3x - 1 = 11$

$\frac{11x}{11} = \frac{11}{11}$ $\boxed{x = 1}$

Distance Formula

Pythagorean Theorem

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

$(3)^2 + (4)^2 = c^2$

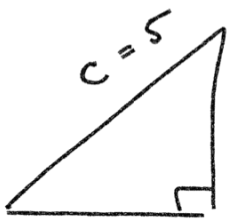
$9 + 16 = c^2$

$\sqrt{25} = \sqrt{c^2}$ $\boxed{c = 5}$

$d = \sqrt{(X_2 - X_1)^2 + (y_2 - y_1)^2}$

$\Delta X \qquad \Delta y$

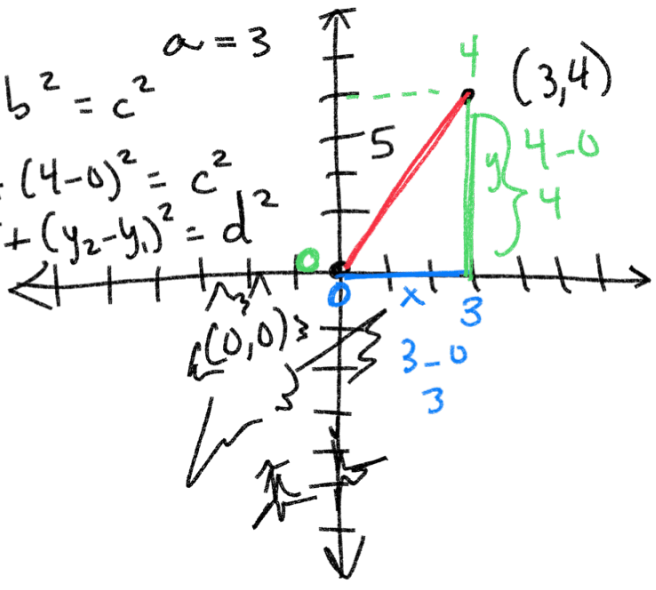
Right Triangle



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

$(3-0)^2 + (4-0)^2 = c^2$

$(X_2 - X_1)^2 + (y_2 - y_1)^2 = d^2$



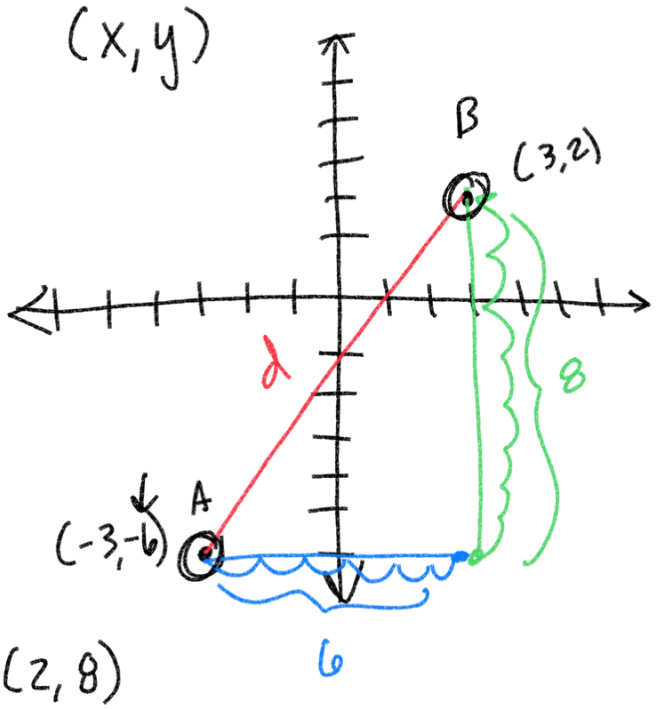
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\sqrt{(-3-3)^2 + (-6-2)^2}$$

$$\sqrt{(-6)^2 + (-8)^2}$$

$$\sqrt{36 + 64}$$

$$\sqrt{100} = \boxed{10}$$



1.) Find the distance between (5,2) and (2,8)

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

$$\sqrt{(5-2)^2 + (2-8)^2}$$

$$\sqrt{3^2 + (-6)^2}$$

$$\sqrt{9 + 36}$$

$$\sqrt{45}$$

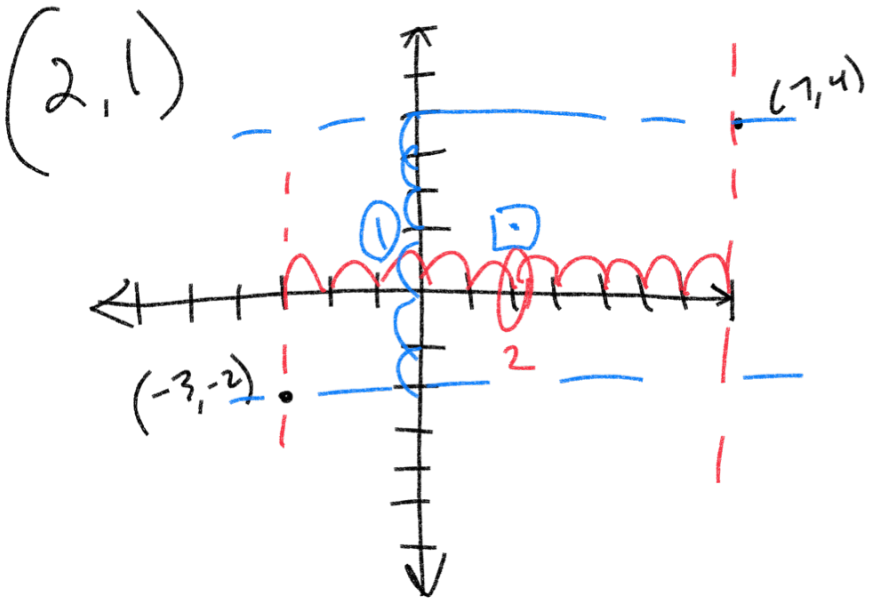
$$\sqrt{45} = \sqrt{9} \cdot \sqrt{5}$$

$$\sqrt{9}\ \sqrt{5}$$

$$\boxed{3\sqrt{5}}$$

1
4
9
16
25
36
49

Midpoint



Average of x, Average of y

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$$

$$\frac{-3+7}{2} \qquad \frac{-2+4}{2}$$

$$\frac{4}{2} \qquad \frac{2}{2}$$

$$\boxed{(2, 1)}$$

Find the midpoint

$(8, 5)$ $(-2, -3)$

Midpoint formula

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$$

$$\left(\frac{8 + (-2)}{2}, \frac{-3 + 5}{2}\right)$$

$$\left(\frac{6}{2}, \frac{2}{2}\right)$$

$$(3, 1)$$

1-7 Area & Perimeter

8m

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	19	19	20	21	22	23	24

3m

Area = Length * Height

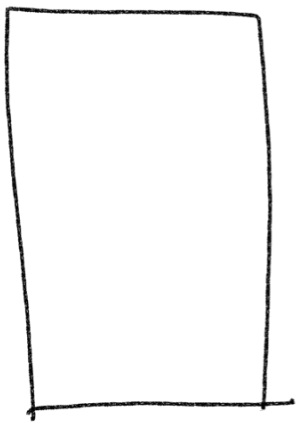
$8m * 3m = 24m^2$

Perimeter : $2L + 2H =$

$2(8m) + 2(3m) =$

$16m + 6m =$ 22m

5 cm



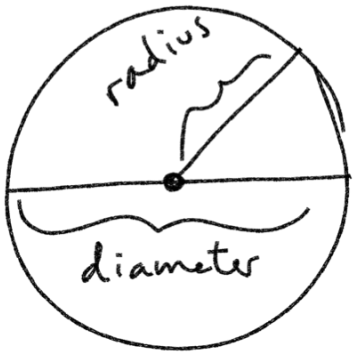
12cm

A : $(5cm) * (12cm) = 60\ cm^2$

P : $2(5cm) + 2(12cm)$

$10cm + 24cm$

34cm

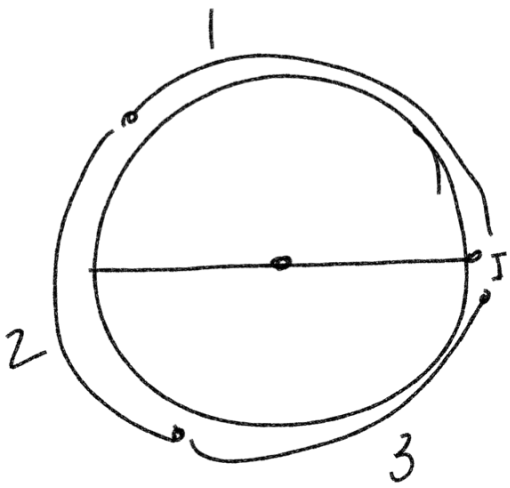


$\frac{1}{2}$ diameter = radius

$\frac{1}{2}d = r$

$d = 2r$

$\pi = 3.1415...$



Idea: The number of times the diameter can be wrapped around the circumference of a circle is π

$C = \pi d$

"pi"

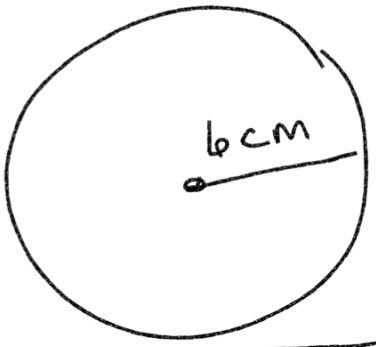
Circumference

$C = \pi(12\text{ in}) = \boxed{12\pi\text{ in}}$

Area of Circle

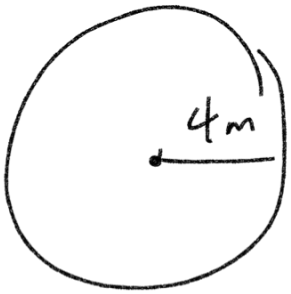
$A = \pi r^2$

$A = \pi(6\text{ cm})^2 = \boxed{36\pi\text{ cm}^2}$



$C = \pi d = 2\pi r = 2\pi(6\text{ cm}) = \boxed{12\pi\text{ cm}}$

1.)

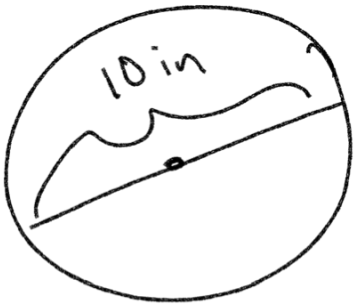


C: $2\pi r$ $2\pi(4m) = \boxed{8\pi m}$

A: $\pi r^2 = \pi(4m)^2$

$\boxed{16\pi m^2}$

2.)



C: $\pi d = \pi(10in) = \boxed{10\pi in}$

A: $\pi\left(\frac{d}{2}\right)^2 = \pi\left(\frac{10in}{2}\right)^2$

$\pi(5in)^2$

$\boxed{25\pi in^2}$