T-G Geometry Week 5 10/3

Distance and Midpoint

$(-2,6)$ and $(3,-6)$

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

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

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

$\sqrt{(5)^2+(-12)^2}$

$\sqrt{25+144}$

$\sqrt{169}=\boxed{13}$

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

$\left(\frac{-2+3}{2}, \frac{6+(-6)}{2}\right)$

$\left(\frac{1}{2}, \frac{0}{2}\right)=\boxed{\left(\frac{1}{2}, 0\right)}$

Look for perfect squares
1, 4, 9, 16, 25, 36, 49, 64, 81, 100...

$\sqrt{80}$

$\sqrt{4}$ $\sqrt{20}$

$\sqrt{4}$ $\sqrt{5}$

$\sqrt{80}=\sqrt{4}\cdot\sqrt{4}\cdot\sqrt{5}$

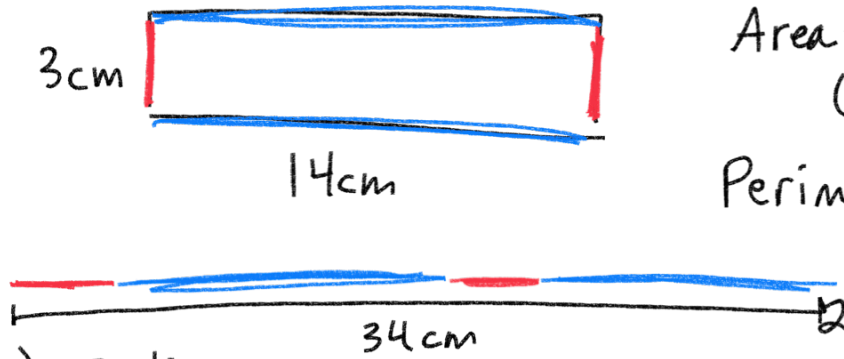
$2\cdot 2\cdot\sqrt{5}=\boxed{4\sqrt{5}}$

$\sqrt{80}$

$\sqrt{16}$ $\sqrt{5}$

$4\sqrt{5}$

1.)



Find

Area: $L * H$

$(14cm)(3cm) = \boxed{42\ cm^2}$

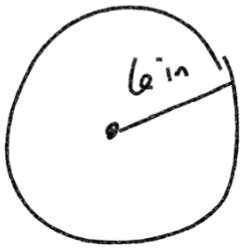
Perimeter: $L + L + H + H$

$2L + 2H$

$2(3cm) + 2(14cm) = 6cm + 28cm$

$\boxed{34\ cm}$

2.) Radius



Area: $\pi r^2 = \pi(6in)^2$

$\boxed{36\pi\ in^2}$

Circumference: $2\pi r$

$2\pi(6in)$

$\boxed{12\pi\ in}$

3.) Diameter

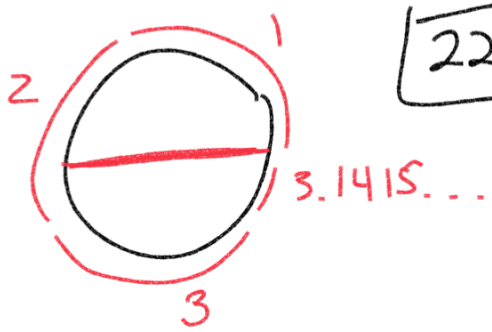
Area: $\pi\left(\frac{d}{2}\right)^2 = \pi\left(\frac{22in}{2}\right)^2$

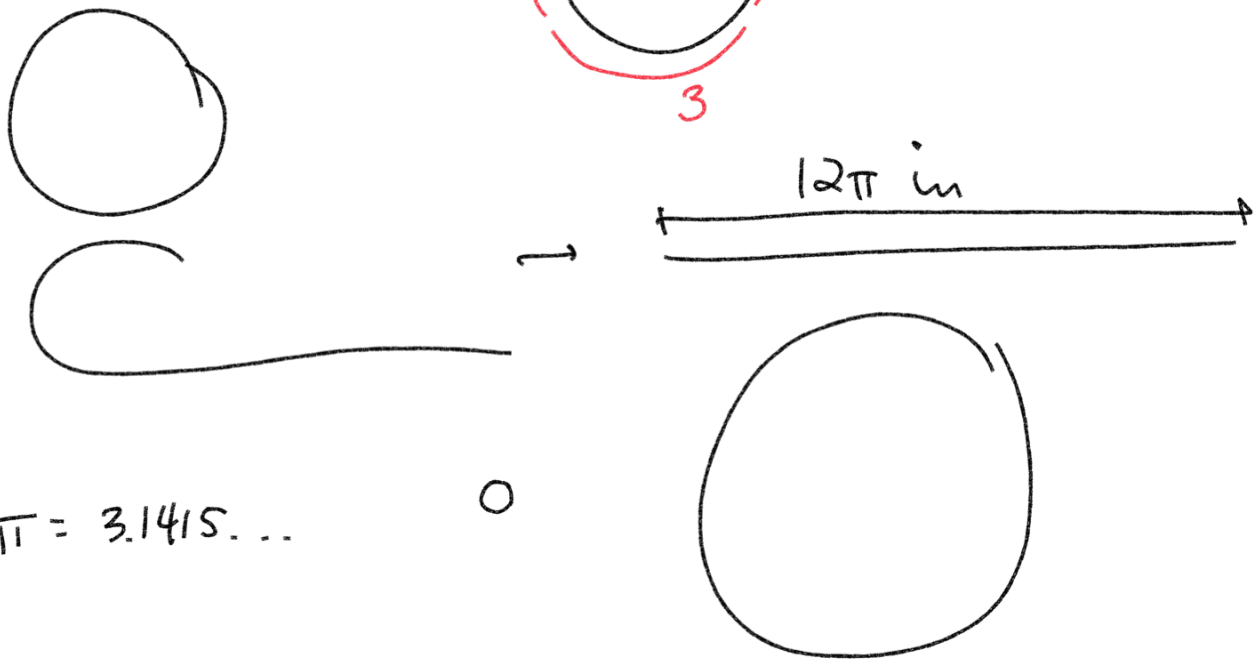
$\pi(11in)^2 = \boxed{121\pi\ in^2}$

121 pi

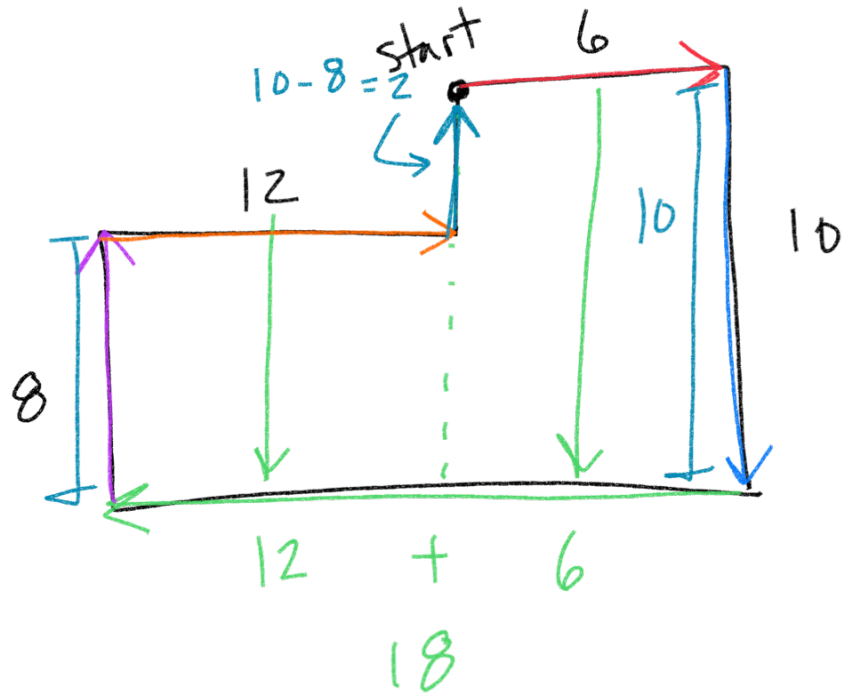
Circumference: πd

$\boxed{22\pi\ in}$





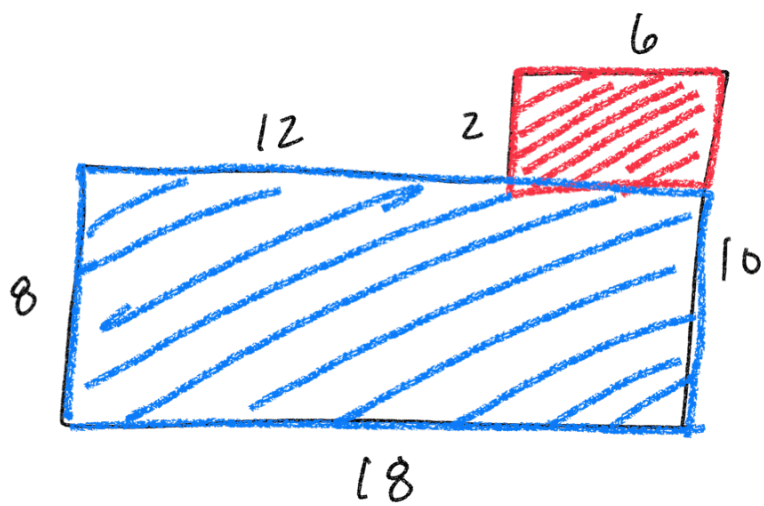
$\pi = 3.1415...$



Perimeter:

$6 + 10 + 18 + 8 + 12 + 2$

$\boxed{56 \text{ units}}$



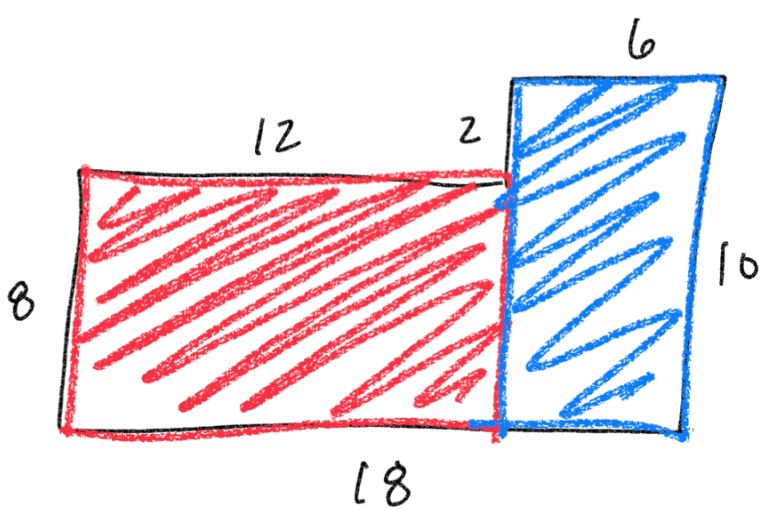
Area:

Red: $(2)(6) = 12 \text{ units}^2$

Blue: $(8)(18) = 144 \text{ units}^2$

$+$

$\boxed{156 \text{ units}^2}$

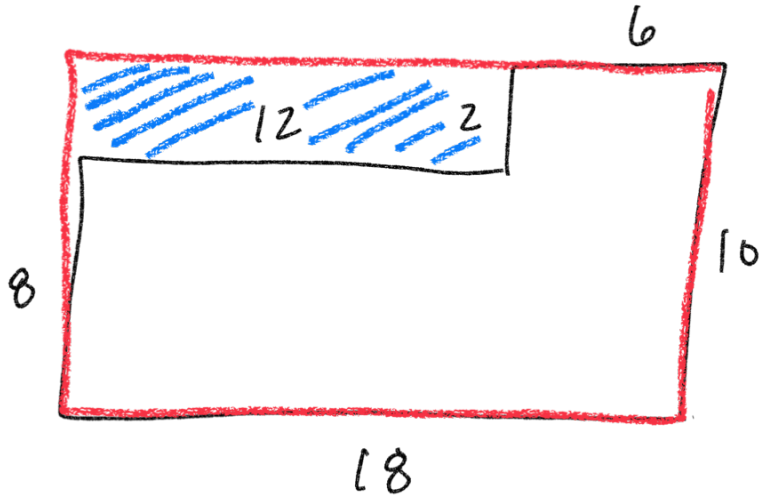


Area:

Red: $(8)(12) = 96 \text{ units}^2$

Blue: $(6)(10) = +60 \text{ units}^2$

$\boxed{156 \text{ units}^2}$

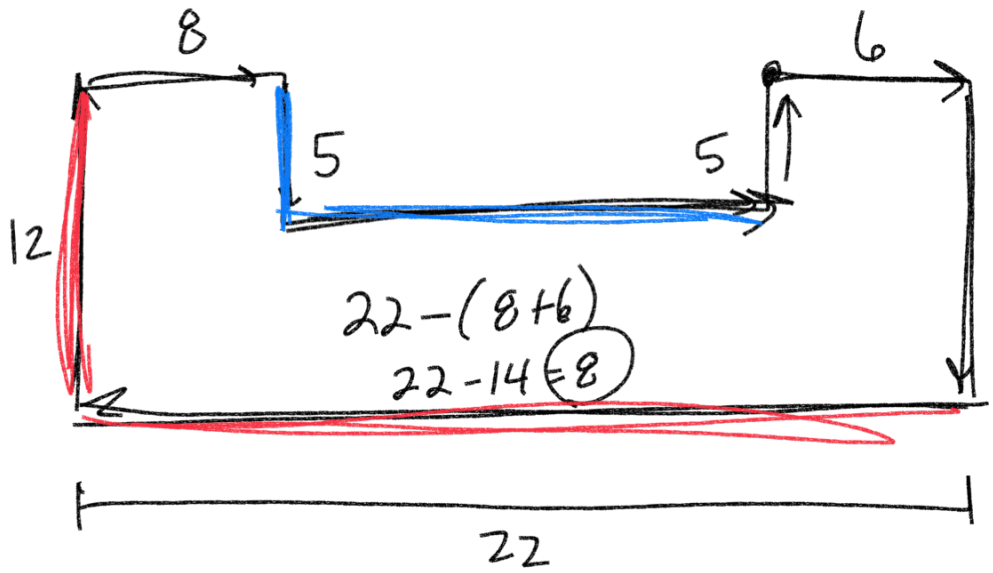


whole − missing

(18)(10) − (2)(12)

180 units² − 24 units²

156 units²



22 − (8 + 6)

22 − 14 = 8

Not drawn to scale

Perimeter & Area

Perimeter

6 + 12 + 22 + 12 + 8 + 5 + 8 + 5

78 units

Area:

Whole − Missing

(22)(12) − (8)(5)

264 units² − 40 units² = **224 units²**

Geometry Chapter 1 Review

Find a pattern for the following sequences.

1.) 6, 10, 14, 18, 22…

+4 +4 +4 +4

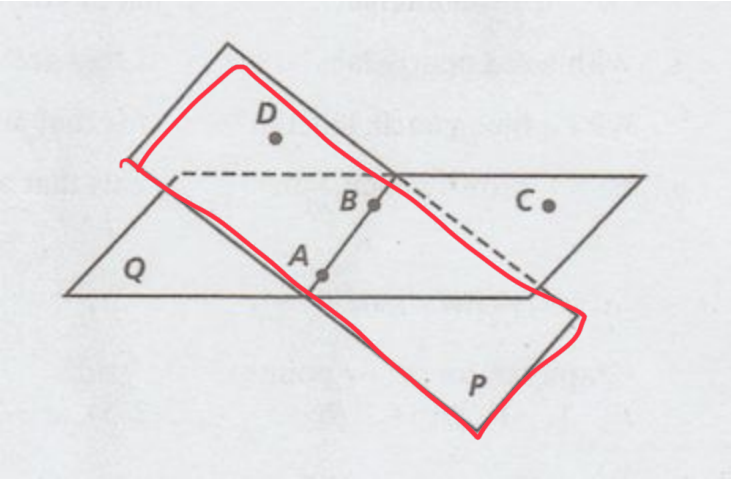
2.) 5, 8, 12, 17, 23…

3.) 60, 40, 30, 25, 22.5…

4.) -2, 6, -18, 54, -162...

*-3 *3 *-3

Use the illustration to answer the following.



1.) What is the intersection of planes P and Q?

$\overline{AB}$

2.) List two pairs of collinear points.

Plane Q
ABC

Plane P
ABD

3.) What is the minimum requirement for a plane? Include one from the illustration.

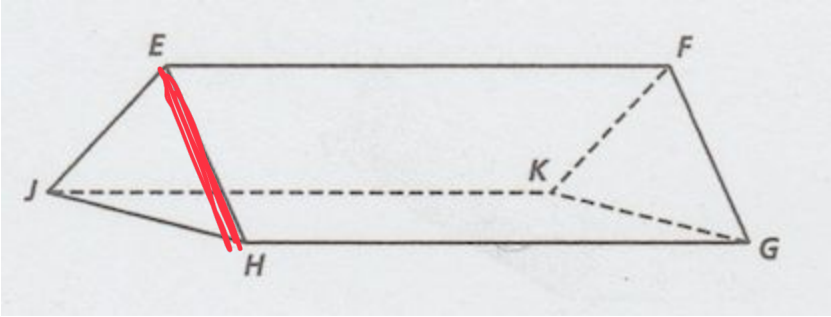
3 noncollinear points
or
1 line and 1 noncollinear pt.

Use the illustration to answer the following.

1.) Name all of the segments parallel to EH.

$\overline{FG}$

2.) Name all segments skew to HG.

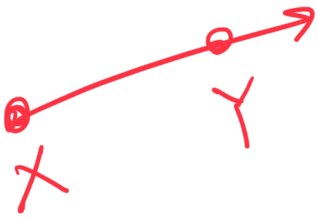


Include proper arrow format for each of the following.

1.) Draw a line segment featuring points A and B.

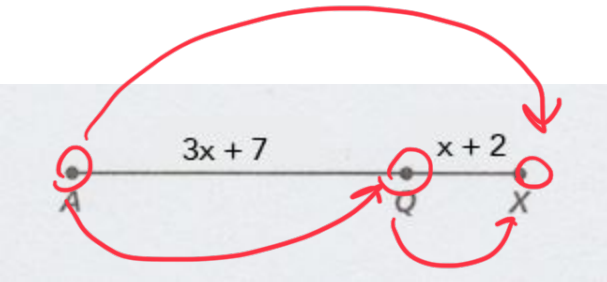
2.) Draw line CD.

3.) Draw the ray XY.



If AX = 57, find the value of each of the following.

1.) AQ



2.) x

$x = 12$

$\overline{AQ} + \overline{QX} = \overline{AX}$

$3x + 7 + x + 2 = 57$

$4x + 9 = 57$

$-9 \quad -9$

$\frac{4x}{4} = \frac{48}{4}$

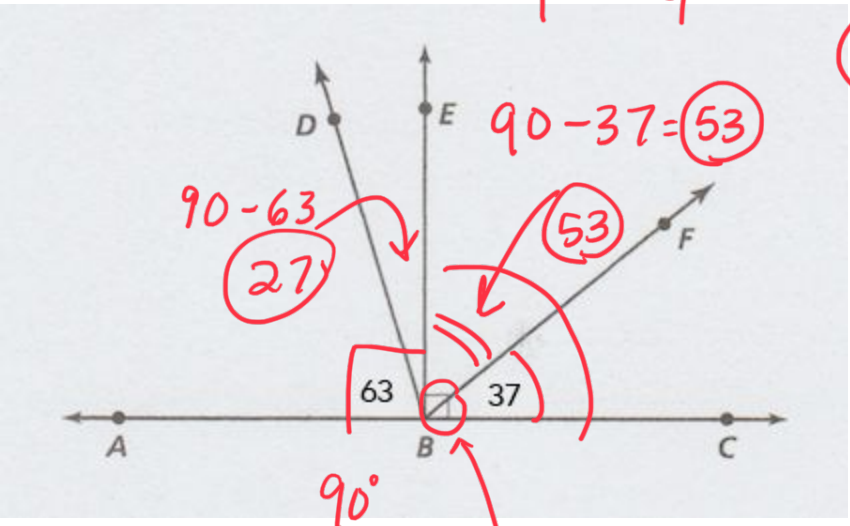
$x = 12$

Find the measure of each of the following angles.

1.) ∠DBE

2.) ∠DBF

3.) ∠DBC



FInd the distance between the points.

1.) (2, 4) and (-6, 7)

2.) (-1, -5) and (4, 7)

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

$\sqrt{(-6-2)^2 + (7-4)^2}$

$\sqrt{(-8)^2 + (3)^2}$

$\sqrt{64 + 9} = \sqrt{73}$

3.) (-7, 0) and (-3, 2)

Find the midpoint of each segment.

1.) A (6, 7), B (-4, 1)

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

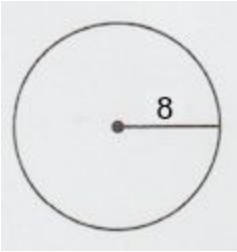
$$\left(\frac{-4+6}{2}, \frac{1+7}{2}\right)$$

$$\left(\frac{2}{2}, \frac{8}{2}\right)$$

$$(1, 4)$$

2.) C (5, -3), D (-9, 2)

Find the circumference of the circle in terms of π.



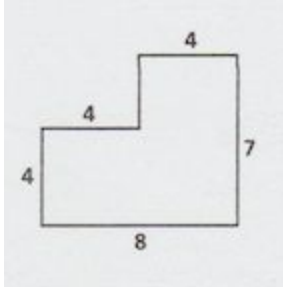
$$C = \pi d = 2\pi r$$

$$2\pi(8) = \boxed{16\pi \text{ units}}$$

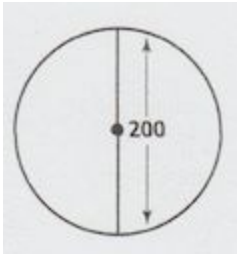
Find the perimeter and area of a rectangle when:

b = 8 cm, h = 6 cm

FInd the perimeter and area for the following figure.



FInd the area of the circle in terms of π.



$A = \pi r^2$

$\pi \left(\frac{d}{2}\right)^2$

$\pi \left(\frac{200}{2}\right)^2$

$\pi (100)^2$

$\boxed{10000\pi \text{ units}^2}$