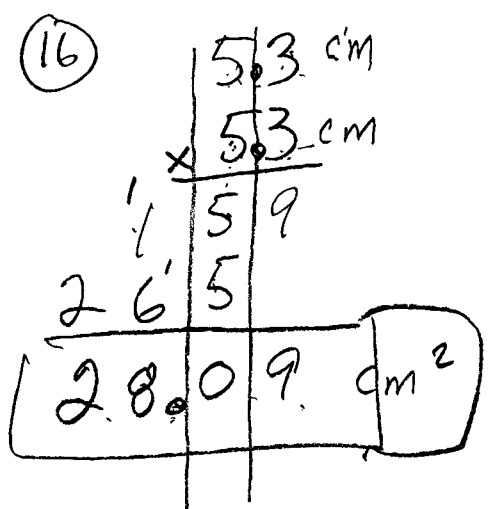


Geometry
Class Notes
TUES, 8-28-12



$\approx 28.1 \text{ cm}^2$

(26) $r = 5 \text{ in}$

$C = 2\pi r = 2 \cdot \pi \cdot r$
 $= 2 \cdot 5 \cdot \pi$
 $= 10\pi \text{ in}$

$\pi = 3.14159$
 3.142
 31.42

EX. $10\pi \text{ in}$
 Approx nearest tenth 31.4 in

$A = \pi r^2$
 $A = \pi (5)^2 = 25\pi \text{ in}^2$

① Finding the midpoint (x, y)

$$\begin{matrix} (-5, -5), & (10, -3) \\ x_1 & y_1 & x_2 & y_2 \end{matrix}$$

$$M(2\frac{1}{2}, -4)$$

③ $(8, -6), (1, 4)$

$$M\left(\frac{8+1}{2}, \frac{-6+4}{2}\right)$$

$$\overset{\text{Mid}}{\boxed{\left(4\frac{1}{2}, -1\right)}}$$

$$x_m, y_m$$

(17) $(-1, 2)$ $(0, -4)$ (x, y)
 END MID OTHER END

$$\frac{x + -1}{2} = 0$$

$$\cancel{2} \cdot \frac{x - 1}{\cancel{2}} = 0 \cdot 2$$

$$x - 1 = 0$$

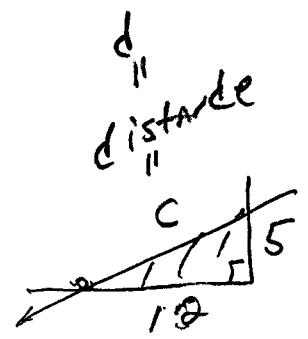
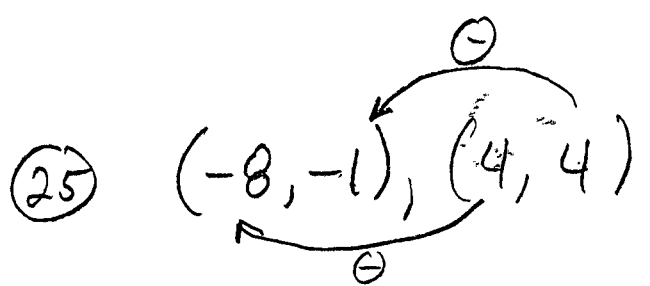
$$\boxed{x = 1} \checkmark$$

$$2 \cdot \frac{y + 2}{2} = -4 \cdot 2$$

$$y + 2 = -8$$

-2 -2

$$\boxed{y = -10} \checkmark$$



$4 - (-1) = 5 = \text{rise}$

$4 - (-8) = 12 = \text{run}$

$5^2 + 12^2 = d^2$

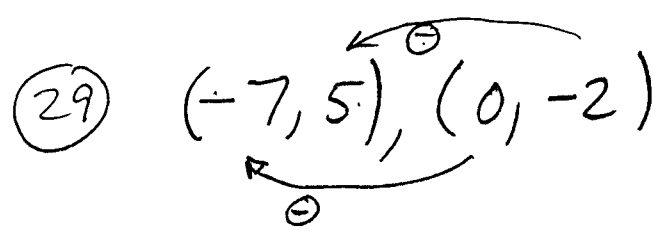
$25 + 144 = d^2$

$\text{rise}^2 + \text{run}^2 = d^2$

$169 = d^2$

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

$13 = d$ UNITS of length



$-2 - 5 = \text{rise} = -7$

$0 - (-7) = \text{run} = 7$

$\text{rise}^2 + \text{run}^2 = d^2$

$(-7)^2 + (7)^2 = d^2$

$49 + 49 = d^2$

$98 = d^2$

$\sqrt{98} = d$

$\sqrt{49 \cdot 2}$

$\sqrt{49} \sqrt{2} = d$

$7\sqrt{2} = d$

98
11
② 49 PS
11
77

m = meters

Metric

milli = $\frac{1}{1000}$ \Rightarrow millimeter \Rightarrow 1000 mm = 1 m

cm = $\frac{1}{100}$ \Rightarrow 100 cm = 1 m

US ft 12 in = 1 ft

in

mi 5280 ft = 1 mi

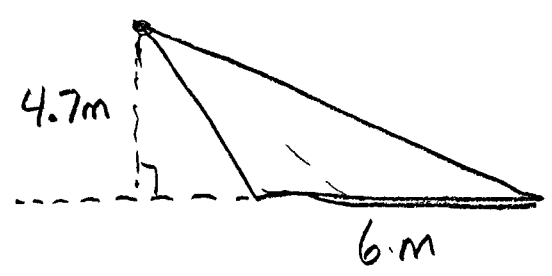
16

5.3
5.3

1 59
2 6 5

28.09 cm²

20



$$A_{\Delta} = \frac{1}{2}bh = \frac{1}{2}(6)(4.7)$$

$$= 3(4.7)$$

$$A_{\Delta} = 14.1 \text{ m}^2$$



$$C = 2\pi r$$

$$A = \pi r^2$$

EXACT : use π

Approx : 3.14

- 3.142
- 3.1416
- 3.14159

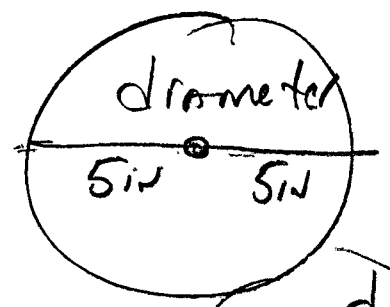
26

$$r = 5 \text{ in}$$

$$C = 2\pi r$$

$$C = 2\pi(5)$$

$$C = 10\pi \text{ in}$$



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

$$2r = d$$

Approx nearest hundredth 31.42
 31.4 in

3

$$\textcircled{34} \quad A_0 = \pi r^2 \quad r = 2 \text{ in}$$
$$= \pi (2)^2$$

$$\boxed{A = 4\pi \text{ in}^2}$$

Midpoint Formula $\boxed{(x, y)}$

$$\text{Avg of } 6, 8 = 7$$

$$9, 12 = 10.5 \text{ or } 10\frac{1}{2}$$

$$-2, 10 = 4$$

$$\underline{(6, 8)}, \underline{(-2, 10)} = (2, 9)$$

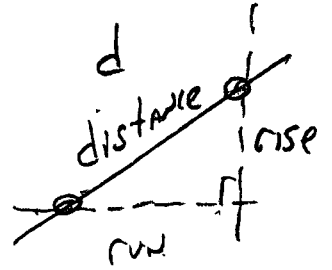
Midpoint $(x_1, y_1), (x_2, y_2)$

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

(25) $(-8, -1), (4, 4)$
 x_1, y_1 x_2, y_2

$$\text{rise} = 4 - (-1) = 5$$

$$\text{run} = 4 - (-8) = 12$$



$$\text{rise}^2 + \text{run}^2 = d^2$$

$$5^2 + 12^2 = d^2$$

$$25 + 144 = d^2$$

$$169 = d^2$$

$$\sqrt{169} = d$$

units $13 = d$

$$d = \sqrt{\underbrace{(y_2 - y_1)^2}_{\text{rise}} + \underbrace{(x_2 - x_1)^2}_{\text{run}}}$$

PS

4
9
16
25
36

$$\sqrt{40} = \sqrt{4 \cdot 10} = (\sqrt{4})\sqrt{10}$$

$$\sqrt{40} = 2\sqrt{10}$$

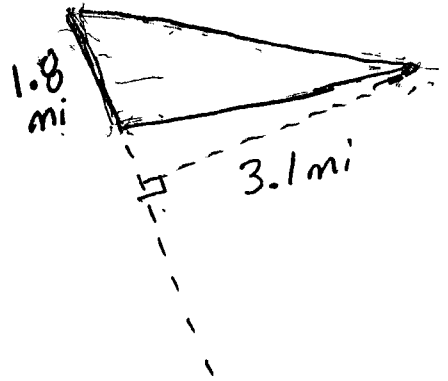
Simplified

$$\textcircled{21} \quad A_{\Delta} = \frac{1}{2} b h$$

$$A_{\Delta} = \frac{1}{2} (1.8)(3.1)$$

$$A_{\Delta} = (0.9)(3.1)$$

$$A_{\Delta} = 27.9 \text{ mi}^2$$



$$A_{\circ} = \pi r^2$$

$$C_{\circ} = 2\pi r$$

$$\textcircled{26} \quad r = 5 \text{ in} \quad \text{EXACT}$$

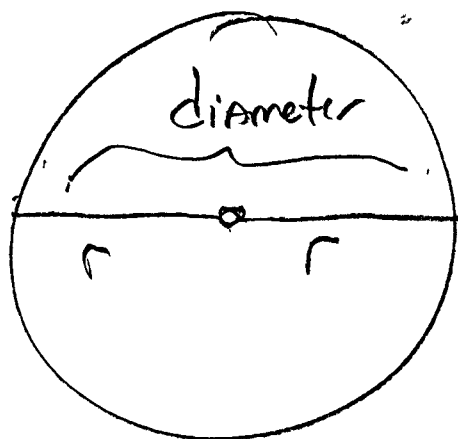
$$C = 2\pi r$$

$$C = 2\pi(5)$$

$$C = 10\pi \text{ in} \quad \text{EXACT}$$

$$C = 10(3.14) = \underline{\underline{31.4 \text{ in}}}$$

Approx



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

$$* A = \pi r^2$$

radius

28

$$r = 12 \text{ km}$$

$$C = 2\pi r$$

$$C = 2\pi(12) = \boxed{24\pi \text{ km}}$$

30

$$d = 8 \text{ yd}$$

$$r = 4 \text{ yd}$$

$$C = 2\pi r$$

$$C = 2\pi(4) = \boxed{8\pi \text{ yds}}$$

$$\textcircled{\text{EX}} \quad \begin{matrix} x_1, y_1 & x_2, y_2 \\ (6, 10) & (10, 12) \end{matrix}$$

$$\text{Midpoint } (x, y) \Rightarrow (8, 11)$$

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

$$\textcircled{\text{EX}} \quad (-6, 10), (10, 12)$$

$$M \boxed{(2, 11)}$$

$$\textcircled{7} \quad (4, -3), (-5, -6)$$

END PT END PT

$$\boxed{\left(-\frac{1}{2}, -\frac{9}{2}\right)}$$

$$\textcircled{21} \quad \begin{matrix} (3, 7) & (-5, -1) & (x, y) ?? \\ \text{END P} & \text{MID} & \text{END} \end{matrix}$$

$$\boxed{(-13, -9)}$$

$$\cancel{2} \cdot \frac{3+x}{2} = -5 \cdot 2$$

$$3+x = -10$$

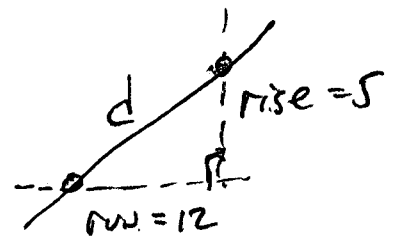
$$\boxed{x = -13} \quad \checkmark$$

$$\cancel{2} \cdot \frac{7+y}{2} = -1 \cdot 2$$

$$7+y = -2$$

$$\boxed{y = -9} \quad \checkmark$$

(25) $(-8, -1), (4, 4)$
 $x_1, y_1 \quad x_2, y_2$



$$4 - (-1) = 5 = \text{rise}$$

$$\text{rise}^2 + \text{run}^2 = d^2$$

$$4 - (-8) = 12 = \text{run}$$

$$\sqrt{\text{rise}^2 + \text{run}^2} = d$$

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

$$d^2 = 5^2 + 12^2$$

$$d^2 = 25 + 144 = 169$$

$$d = \sqrt{169}$$

$$d = 13$$