

Before we begin, are there any questions from last day's work?

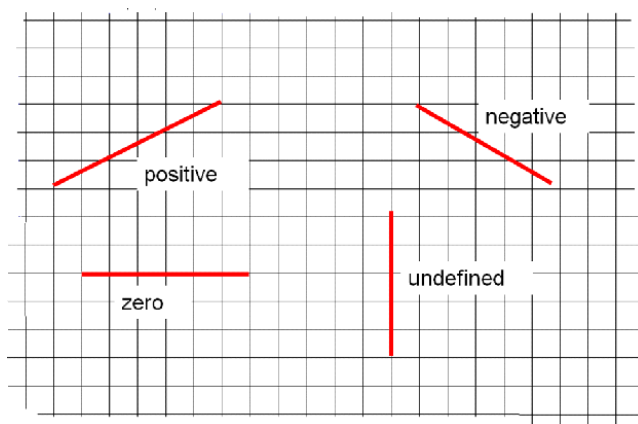
(listed 2 slides away)

Today's Learning Goal(s):

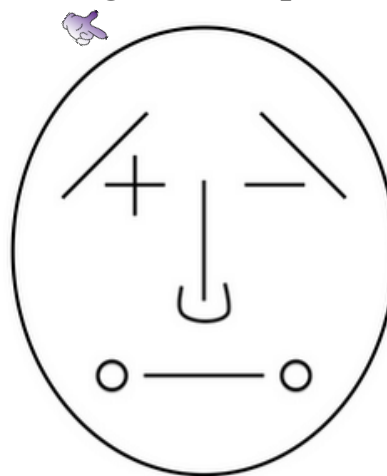
By the end of the class, I will:

- a) have reviewed my notes, examples and homework for this unit
- b) be ready to do the Unit 3 Summative.

Summary: Types of Slopes



Introducing: Mr. Slope Guy



Correcting Homework: **Spring 2016 Dates**

Fri. Mar. 11 **3.1** p. 114 # 1 to 4, 6

Mon. Mar. 21 **3.2** pp. 124-125 #1a, 2ab, 3, 4, 9, 12
Enrichment: p. 126 #18

Tues. Mar. 22 **3.3** pp. 134-136 #1, 2, 3, 9, 12, 17

Wed. Mar. 23 **3.4** pp. 142-143 #2, 4, 5, 10, 12, 14
Enrichment: p. 144 #17

Tues. Mar. 29 **3.5** p. 150 #1, 2 (you need graph paper), 7
Enrichment: p. 151 #18

CHECK YOUR ANSWERS IN THE BACK: p. 523

Last Class **3.5** (Day2) p. 150 #4, 5, 9

(Hint for #9: graph first,

then determine **the equations of the right bisector lines** of AB and AC.)

(You are NOT allowed to estimate where you believe the centre is).

Today's entertainment:

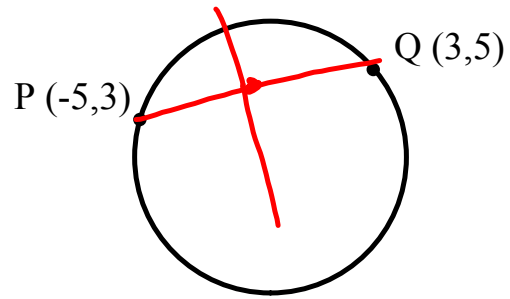
WRITTEN: pp. 152-153 #4, 6ab, 9, 11

pp. 154-155 #5, 6, 8, 12

p. 151 #12 (Hint for #12: see p. 150 #9)

Some "old" solutions for p. 150 follow on the blank slides.

p. 150 #5



$P(5,3)$ $Q(3,5)$
 $M_{PQ} = \left(\frac{-5+3}{2}, \frac{3+5}{2} \right)$
 $= M_{PQ}(-1, 4)$

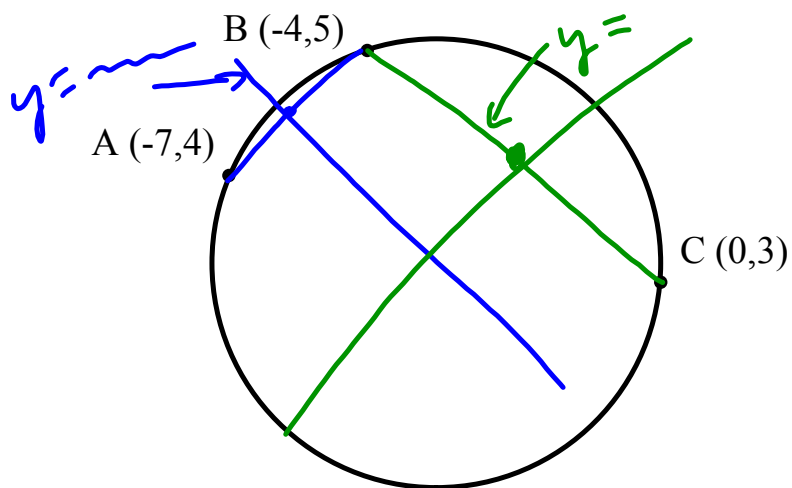
$M_{PQ} = \frac{5-3}{3-(-5)}$
 $= \frac{2}{8}$
 $= \frac{1}{4} \quad m_{\perp} = -4$

$y = -4x + b$
 $(4) = -4(-1) + b$
 $4 = 4 + b$
 $4 - 4 = b$
 $0 = b$

Show $(0,0)$
 $CS = y \quad PS = -4x$
 $= 0 \quad = -4(0)$
 $\therefore CS = PS = 0$
 $\therefore (0,0)$ is on the right bisector of PQ

$\therefore y = -4x$ is the eqn of the right bisector of PQ

p. 150 #9



p.150 #9

$$M_{AB} \left(\frac{-7+4}{2}, \frac{4+5}{2} \right) = M \left(-\frac{11}{2}, \frac{9}{2} \right)$$

$$m_{AB} = \frac{5-4}{-4-(-7)}$$

$$= \frac{1}{3}$$

$$m_{\perp} = -3$$

$$y = -3x + b$$

$$\left(\frac{9}{2} \right) = -3 \left(-\frac{11}{2} \right) + b$$

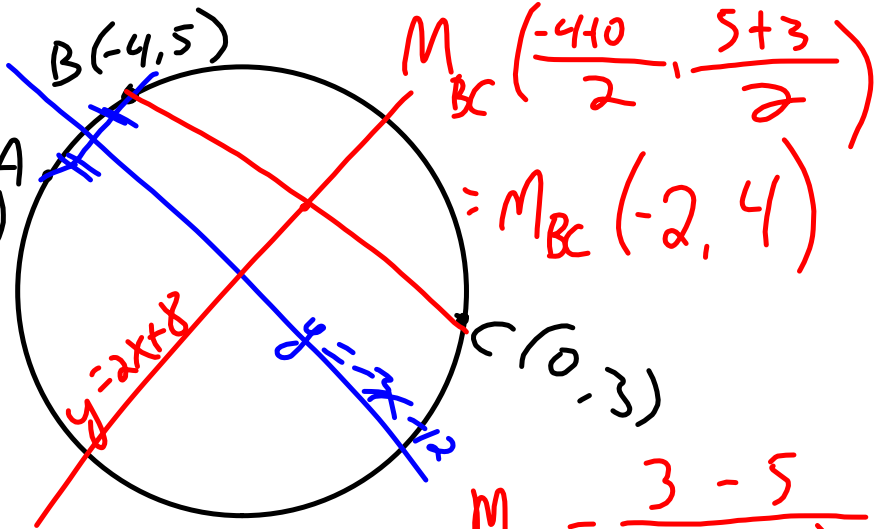
$$\frac{9}{2} = \frac{33}{2} + b$$

$$\frac{9}{2} - \frac{33}{2} = b$$

$$\frac{-24}{2} = b$$

$$-12 = b$$

$\therefore y = -3x - 12$
is the eqn of the
right bisector of AB



$$y = 2x + b$$

$$(4) = 2(-2) + b$$

$$4 = -4 + b$$

$4 + 4 = b$
 $8 = b$
 $\therefore y = 2x + 8$
is the eqn of the
bisector of BC

$$y = 2x + 8$$

$$y = -3x - 12$$

$$2x + 8 = -3x - 12$$

$$2x + 3x = -12 - 8$$

$$5x = -20$$

$$x = -4$$

$\therefore (-4, 0)$ is the
centre of the circle

$$M_{BC} \left(\frac{-4+0}{2}, \frac{5+3}{2} \right) = M_{BC} (-2, 4)$$

$$M_{BC} = \frac{3-5}{0-(-4)}$$

$$= \frac{-2}{4}$$

$$= -\frac{1}{2}$$

$$\therefore m_{\perp} = 2$$

$$\rightarrow y = 2(-4) + 8$$

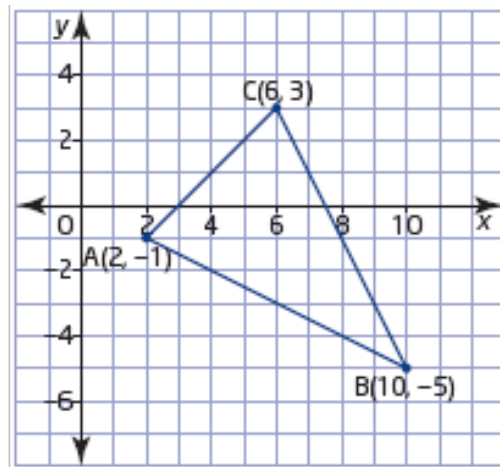
$$= -8 + 8$$

$$= 0$$

An "old" solution is on the next slide.

p. 154 #5

$$\begin{aligned}
 |AB| &= \sqrt{(10-2)^2 + (-5-(-1))^2} \\
 &= \sqrt{8^2 + (-4)^2} \\
 &= \sqrt{64 + 16} \\
 &= \sqrt{80} \\
 &= \sqrt{16} \sqrt{5} \\
 &= 4\sqrt{5} \text{ units}
 \end{aligned}$$

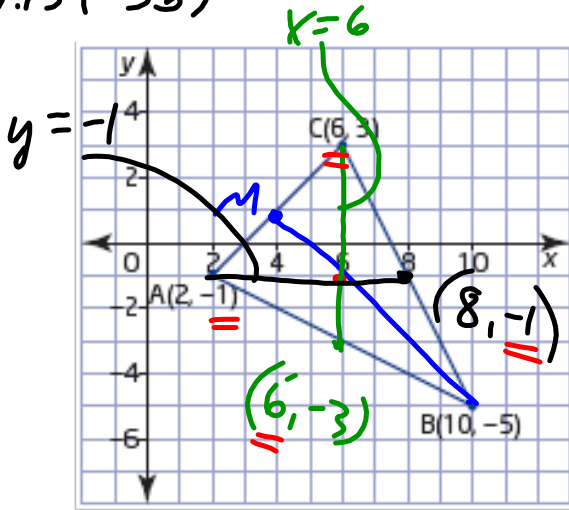


$$\begin{aligned}
 |CB| &= \sqrt{(10-6)^2 + (-5-3)^2} \\
 &= \sqrt{4^2 + (-8)^2} \\
 &= \sqrt{16 + 64} \\
 &= \sqrt{80} \\
 &= 4\sqrt{5} \text{ units}
 \end{aligned}$$

$$\therefore |AB| = |CB|$$

$\therefore \triangle ABC$
is isosceles

p.154 5b)



Median from B

$$M_{AC} \left(\frac{2+6}{2}, \frac{-1+3}{2} \right)$$

$$= M_{AC} (4, 1)$$

$$M_{BM} = \frac{-5-1}{10-4}$$

$$= \frac{-6}{6} \quad y = -x + b$$

$$= -1 \quad (1) = -(4) + b$$

$$\quad \quad \quad = -4 + b$$

$$\quad \quad \quad 1 + 4 = b$$

$$\quad \quad \quad 5 = b$$

$\therefore y = -x + 5$ is the eq'n of median from B.

Verify (6, -1)

$$LS = y \quad RS = -x + 5$$

$$= -1 \quad = -(6) + 5$$

$\therefore LS = RS = -1$
 $\therefore (6, -1)$ is on the median from B.

Median from C

$$M_{AB} \left(\frac{2+10}{2}, \frac{-1+(-5)}{2} \right)$$

$$= M_{AB} (6, -3) \quad \text{on } y = -1$$

Verify (6, -1) on $x = 6$

$$LS = x \quad RS = 6$$

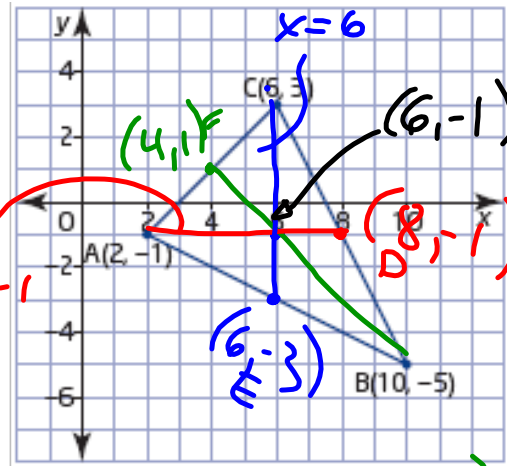
$$= 6 \quad = 6$$

\therefore

$$M_{CB} \left(\frac{\quad}{2}, \frac{\quad}{2} \right)$$

$$= M_{CB} (8, -1)$$

p. 154 #5



$$m_{AD} = 0 \quad (y = 0x + b)$$

$$\therefore y = ?$$

$$y = -1$$

$$(8, -1)$$

$$y = -1$$

$$m_{CE} = \frac{6}{0}$$

= undefined

$$\therefore x = ?$$

$$x = 6$$

$$(6, -3)$$

$$(6, -1)$$

$$m_{BF} = \frac{1 - (-5)}{4 - 10}$$

$$= \frac{6}{-6}$$

$$= -1$$

$$y = -x + 6 \quad (10, -5)$$

$$-5 = -(10) + b$$

$$-5 + 10 = b$$

$$b = 5 \quad \therefore y = -x + 5$$

$$(6, -1)$$

$$LS = y$$

$$= -1$$

$$RS = -x + 5$$

$$= -(6) + 5$$

$\therefore LS = RS = -1$
 $\therefore (6, -1)$ is the centroid