

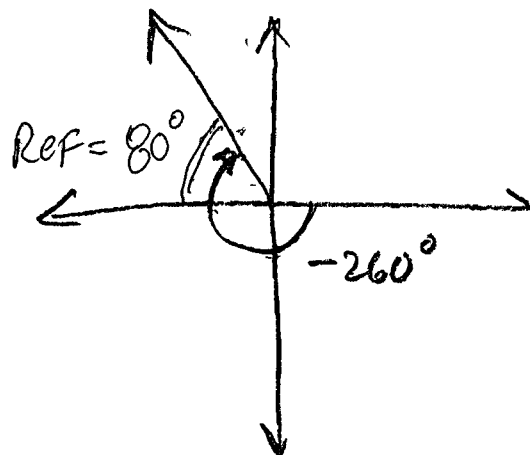
Geometry

Friday 12-14-12

Class Notes

①

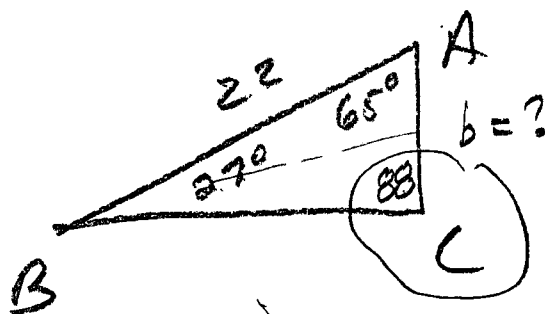
ID 3



EXAM 2
Review

⑮

ID 2



ASA = LOS

$$\frac{\sin 88}{22} = \frac{\sin 27}{b}$$

$$\frac{b (\sin 88)}{(\sin 88)} = \frac{22 (\sin 27)}{(\sin 88)}$$

$$b = \frac{22 (.4540)}{(.9994)}$$

$$b = 9.993$$

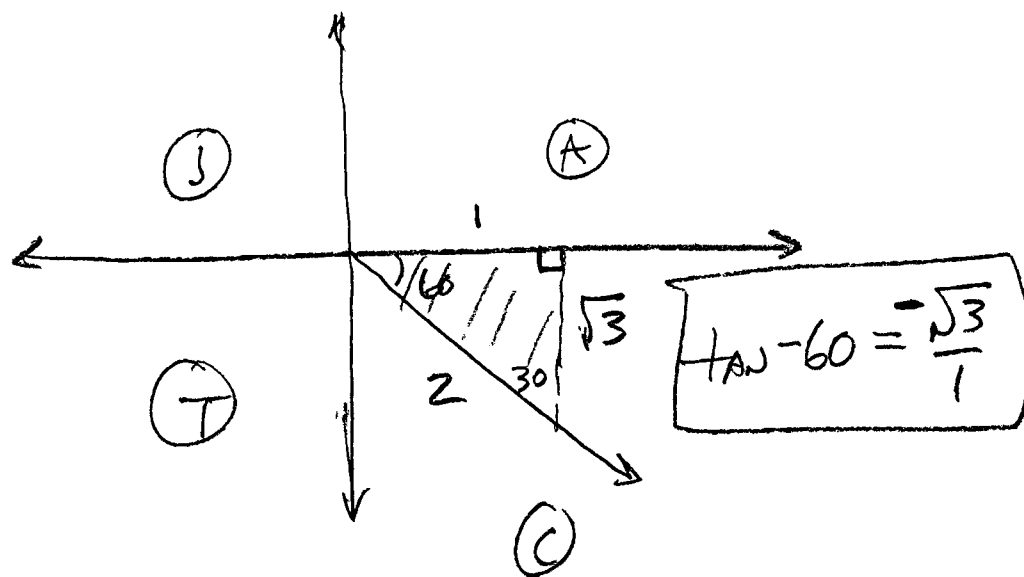
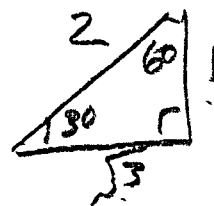
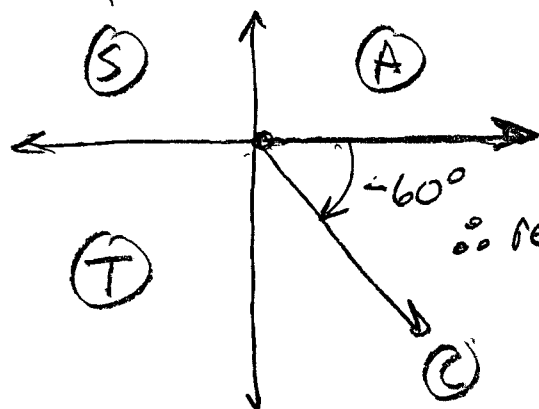
$$b = 10.0$$

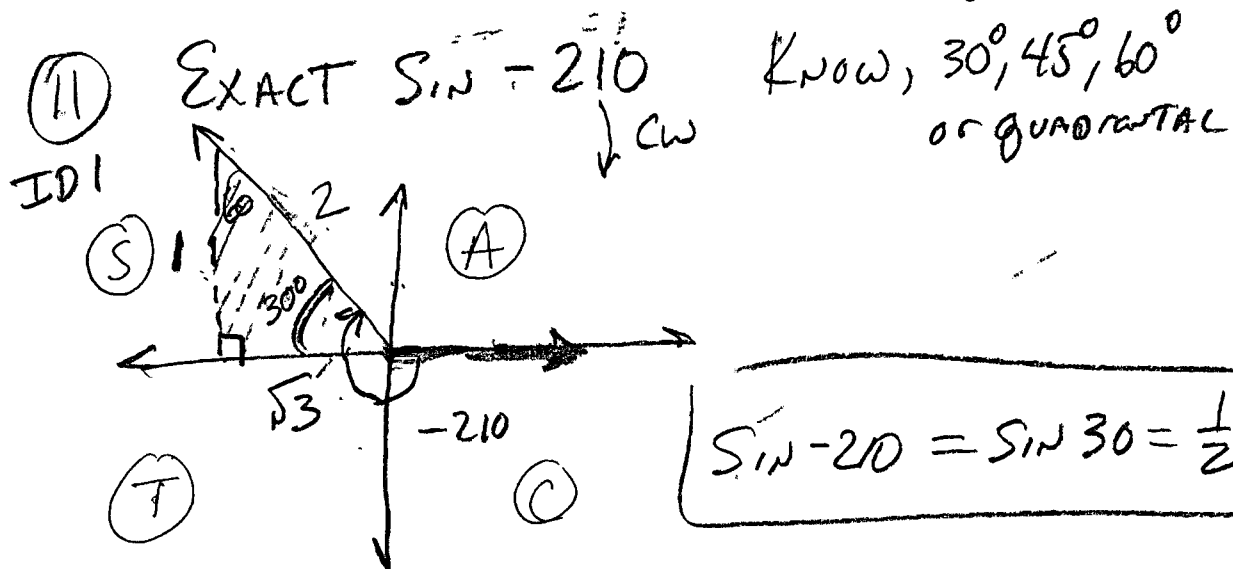
⑪

ID3

EXACT $\Rightarrow 30, 45, 60$, QUADRANTAL

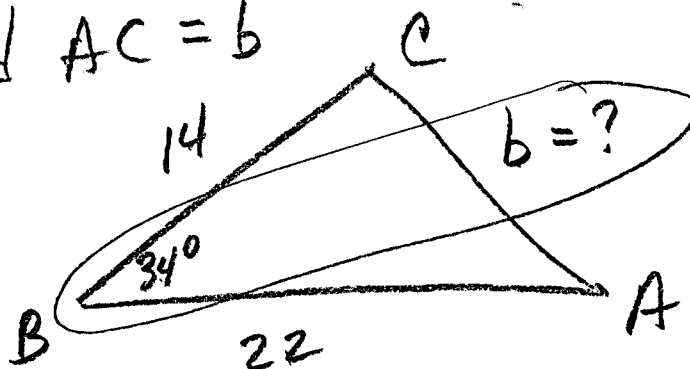
$$\tan = 60 \rightarrow$$





⑦ Find $AC = b$

IDI



SAS = LOC

$$\begin{array}{r} 22 \\ \times 22 \\ \hline 44 \\ 44 \\ \hline 484 \end{array} \quad \begin{array}{r} 44 \\ \times 14 \\ \hline 176 \\ 44 \\ \hline 616 \end{array}$$

$$b^2 = 14^2 + 22^2 - 2(14)(22) \cos 34$$

$$b^2 = 196 + 484 - 616 (.8290)$$

$$b^2 = 680 - 616 (.8290)$$

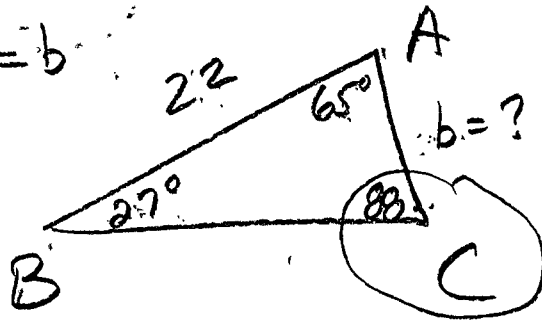
$$b^2 = 680 - 510.664$$

$$b^2 = 169.336$$

$$b = 13.012 \approx 13.0$$

15
IDI

Find $AC = b$



ASA
↓
LOS

$$\frac{\sin 88}{22} = \frac{\sin 27}{b}$$

$$\frac{b \sin 88}{\sin 88} = \frac{22 \sin 27}{\sin 88}$$

$$b = \frac{22(.4540)}{(.9994)}$$



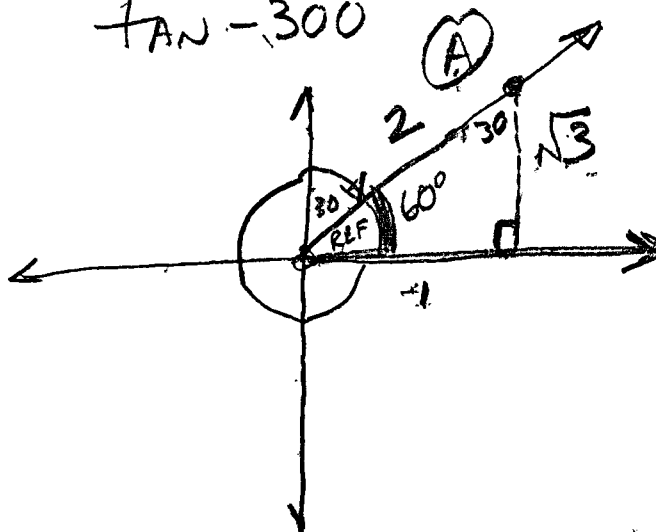
$$b = 9.994 \approx 10.0$$

(12)
ID3

"Exact" $\checkmark$ $30^\circ, 45^\circ, 60^\circ$, or QUADRANTAL

(ASTC)

$$\tan^{-1} 300$$

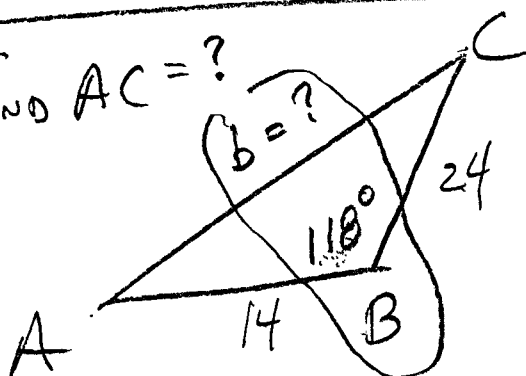


$$\tan^{-1} 300 = \tan^{-1} 60$$

$$\tan^{-1} 300 = \sqrt{3}$$

(18)
ID1

Find AC = ?



SAS $\Rightarrow$ LOC

(9/4)

$$-\cos 62^\circ$$

$$b^2 = 14^2 + 24^2 - 2(14)(24)\cos(118^\circ)$$

$$b^2 = 196 + 576 + 672(.4695)$$

$$b^2 = 772 + 315.504$$

$$b^2 = 1087.504$$

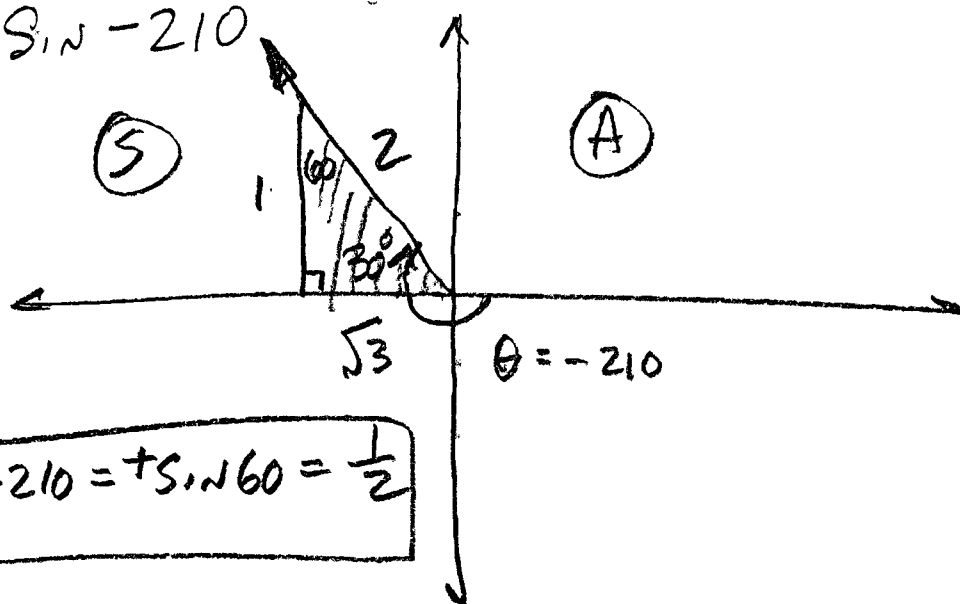
$$b = 32.977 \approx 33.0$$

(14)
ID2

$\sin -210$

(5)

(A)



$$\sin -210 = +\sin 60 = \frac{1}{2}$$

(21)

$$x^2 = 5x - 6$$

$$-5x + 6 \quad -5x + 6$$

$$x^2 - 5x + 6 = 0$$

$$\text{sum} = b = -5$$

$$\text{prod} = ac = 6$$

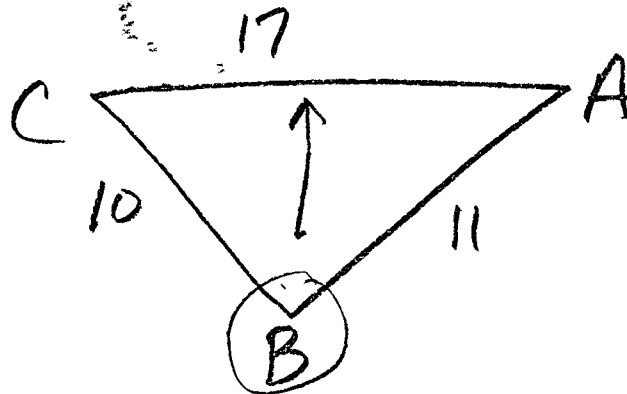
$$-2 \quad -3$$

$$(x-2)(x-3) = 0$$

$$x = \{2, 3\}$$

① mLB

SSS =
LOC



$$17^2 = 10^2 + 11^2 - 2(10)(11) \cos B$$

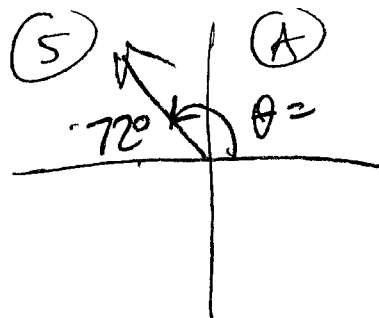
$$289 = 100 + 121 - 220 \cos B$$

$$\begin{array}{r} 289 = 221 - 220 \cos B \\ -221 \quad -221 \end{array}$$

$$\frac{68}{-220} = \frac{-220 \cos B}{-220}$$

$$-.3091 = \cos B$$

$$\boxed{\cos^{-1}(-.3091) = 108^\circ}$$



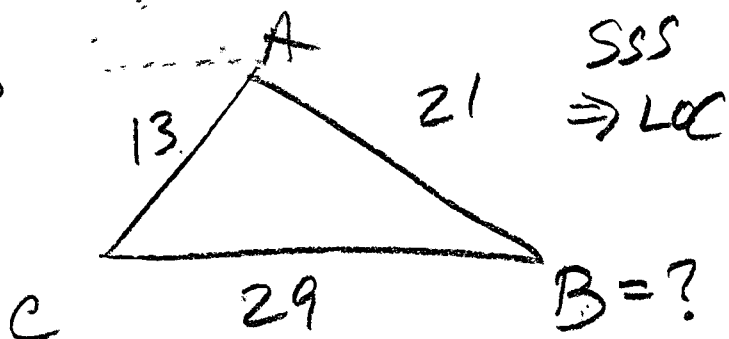
↑
OBTUSE

$$\begin{array}{c} \Downarrow \\ 71.99 = \text{ref angle} \\ \uparrow \\ 72^\circ \end{array}$$

(20)

ID3

MLB



$$13^2 = 21^2 + 29^2 - 2(21)(29)\cos B$$

$$169 = 441 + 841 - 1218 \cos B$$

$$169 = 1282 - 1218 \cos B$$

$$\frac{-1113}{-1218} = \frac{-1218 \cos B}{-1218}$$

$$.9139 = \cos B$$

$$\cos^{-1}(.9139) = B = 23.96 \approx 24^\circ$$

23 Solve by factoring
ID2

$$3x^2 = 23x + 8$$

$$3x^2 - 23x - 8 = 0$$

$$\text{sum} = b = -23$$

$$\text{prod} = ac = -24$$

$$+1 \quad -24$$

$$(3x^2 - 24x) + (x - 8) = 0$$

$$3x(\underline{x - 8}) + 1(\underline{x - 8}) = 0$$

$$(x - 8)(3x + 1) = 0$$

$$x = \left\{ 8, -\frac{1}{3} \right\}$$

? ?

(25)
102

$$-5x^2 + 5x + 12 = 2 \quad d = ?$$

-2 -2 MEANING

$$-5x^2 + 5x + 10 = 0$$

$$a = -5 \quad b^2 - 4ac$$

$$b = 5 \quad (5)^2 - 4(-5)(10)$$

$$c = 10$$

$$25 + 200 = \boxed{225 = d}$$

perf. sq.

sum $\Rightarrow 5$
prod $\Rightarrow -50$
-5 + 10

2 real, rational
solutions

$$(-5x^2 - 5x) + (10x + 10) = 0$$

$$-5x(\underline{x + 1}) + 10(\underline{x + 1}) = 0$$

$$(x + 1)(-5x + 10) = 0 \quad x = \{-1, 2\}$$

$$QF = x = \frac{-b \pm \sqrt{d}}{2a} = \frac{-5 \pm 15}{-10}$$

$$= \frac{-5 + 15}{-10}, \frac{-5 - 15}{-10}$$

$$= \boxed{-1, 2}$$

(26) Find d , meaning?

ID3

$$-5x^2 + 5x + 12 = 2$$

$$\underbrace{-5x^2 + 5x + 10}_{-2 \quad -2} = 0$$

$$a = -5 \quad b^2 - 4ac$$

$$b = 5 \quad (5)^2 - 4(-5)(10)$$

$$c = 10 \quad 25 + 200 = \boxed{225 = d}$$

QF $x = \frac{-b \pm \sqrt{d}}{2a}$

$$= \frac{-5 \pm 15}{-10} = -1, 2$$

per sq.

2 real, rational solutions

(EX) sum = 5
prod = -50

$$+10 \quad +5$$

$$(-5x^2 + 10x) + (-5x + 10) = 0$$

$$-5x(x + 2) + -5(x - 2) = 0$$

$$(x - 2)(-5x - 5) = 0$$

$$x \in \{2, -1\}$$