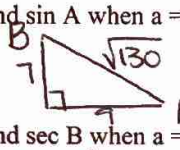
Trigonometry: Chapter 2 Test Review (In Class) **Name** _____

REMEMBER TO SIMPLIFY ALL ANSWERS. GIVE EXACT ANSWERS UNLESS SPECIFIED OTHERWISE.

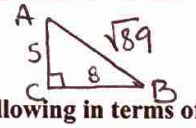
Two sides of a right triangle ABC (C is the right angle) are given. Find the EXACT trigonometric ratio indicated for the specified angle.

1) Find sin A when a = 7 and b = 9.



1) $\sin A = 7/\sqrt{130}$

2) Find sec B when a = 8 and b = 5



$\cos B = \frac{8}{\sqrt{89}}$

2) $\sec B = \frac{\sqrt{89}}{8}$

Write each of the following in terms of its cofunction. Assume that all angles are acute.

3) $\cot 46^0$

3) $\tan 44^\circ$

4) $\sin(\alpha - 62^0)$

4) $\cos(152^\circ - \alpha)$

Solve for β. Assume that all angles are acute angles.

5) $\sin(2\beta + 5^0) = \cos(3\beta - 20^0)$

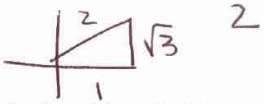
$2\beta + 5 + 3\beta - 20 = 90 \quad 5\beta = 105$

5) $\beta = 21$

Solve for the requested information.

6) Find the equation of a line in the form y = mx through the origin such that the sine of the angle formed by the line in quadrant I and the positive x-axis is $\frac{\sqrt{3}}{2}$.

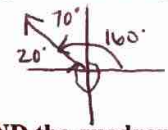
$\sin\theta = \frac{\sqrt{3}}{2}$



6)  $y = \sqrt{3}x$

Bearing.

7) Given a 160^0 angle in standard position, find its equivalent expressed as a bearing.



7) 290° or N 70° W

Find the reference angle AND the quadrant for the given angle.

8) $A = 163^0$

8) QII 17°

9) $A = -386^0$

9) QIV 26°

10) $A = 128^0\ 16'$

10) QII 51°44'

11) $A = 2730^0$

11) QIII 30°

Give the EXACT value.

Q III 12) $\sin 225^0$ $\theta' = 45°$ — 12) $-\frac{\sqrt{2}}{2}$

Q II 13) $\sec 120^0$ $\theta' = 60°$ $\cos 60° = 1/2$ — 13) -2

Q II 14) $\sin(-240^0)$ $\theta' = 60°$ — 14) $\sqrt{3}/2$

15) $\cos 270^0$ — 15) 0

Use a calculator to find the function value to four decimal places.

16) $\tan 74^0 33'$ — 16) 3.6181

17) $\sec 41^0 42'$ $1/\cos 41°42'$ — 17) 1.3393

Find a value of ϑ in $[0^0, 90^0)$ that satisfies the statement. Answer in DMS.

18) $\cos \vartheta = .368$ — 18) $68°24'28''$

19) $\cot \vartheta = 1.5629$ — 19) $32°36'45''$

20) $\sin \vartheta = .6211$ — 20) $38°23'47''$

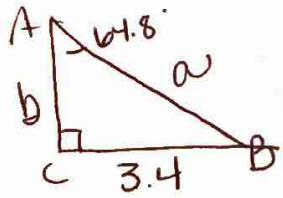
Find two values of ϑ in $[0^0, 360^0)$ that satisfies the sta

21) $\sin \vartheta = -\frac{1}{2}$ $\theta' = 30$ Q III & — 21) $210°$ $330°$

22) $\tan \vartheta = -\frac{1}{\sqrt{3}}$ $\theta' = 30°$ Q II Q IV — 22) ~~150°~~ $330°$

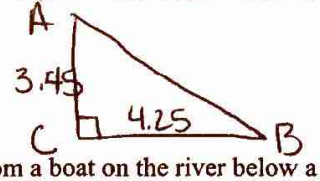
For each: i] Draw a picture, ii] Write a trig equation, and iii] Solve for the missing parts of ΔABC.

23) $a = 3.4$ in, $A = 64.8^0$, $C = 90^0$ — 23) $m\angle B = 25.2°$, $a = 3.8$, $b = 1.6$



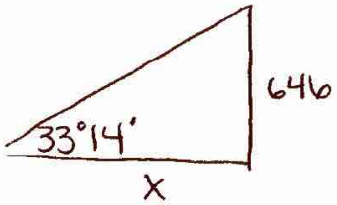
$\tan 64.8 = \frac{3.4}{b}$

24) $a = 4.25$ cm, $b = 3.45$ cm, $C = 90^0$ — 24) $C = 5.47$, $m\angle A = 50.9°$, $m\angle B = 39.1°$



$\tan A = \frac{4.25}{3.45}$

25) From a boat on the river below a dam, the angle of elevation to the top of the dam is $33^0 14'$. If the dam is 646 feet above the level of the river, how far is the boat from the base of the dam? — 25) $x = 986'$



$\tan 33°14' = \frac{646}{x}$