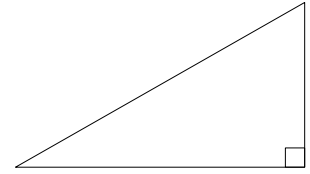1)   Label the triangle (use x, y, r, θ) then list the following relationships using <u>your</u> labels: Pythagorean Theorem, slope the three standard trigonometric ratios (sine, cosine, tangent) and their inverses.

2a)   Convert 100° azi to its equivalent <u>bearing</u> _____ and <u>positive standard angle</u> _____.

2b)   Convert S 55° E to its equivalent <u>azimuth</u> _____ and <u>negative standard angle</u> _____.

3a)   Convert θ = 70° to its equivalent <u>bearing</u> _____ and <u>negative standard angle</u> _____.

3b)   Find the principle positive angle of 1240° _____. Find the principle positive angle of -3725° _____

4)   The radius of the <u>Unit Circle</u> is 1.

Trigonometric Relations in the Unit Circle

Label their Coordinate Points:

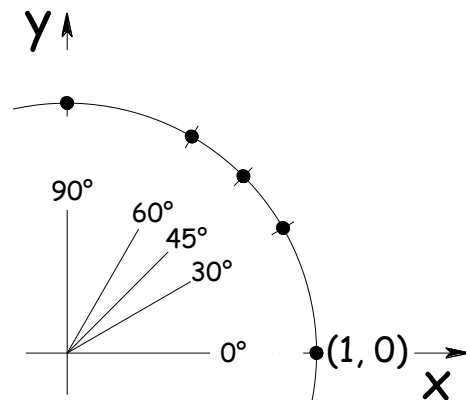$(1, 0)$; $(\sqrt{\frac{3}{4}}, \frac{1}{2})$; $(\sqrt{\frac{1}{2}}, \sqrt{\frac{1}{2}})$; $(\frac{1}{2}, \sqrt{\frac{3}{4}})$; $(0, 1)$

<u>With r = 1 solve for:</u>

x =   y =

slope (m) =

$x^2 + y^2 =$

Try using the above reference diagram to compute the following <u>WITHOUT</u> using a calculator.

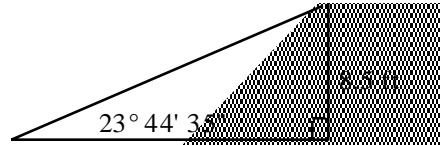|						
5a)	sin 0° =	cos 0° =	tan 0° =	sin 90° =	cos 90° =	tan 90° =
5b)	sin 30° =	cos 30° =	tan 30° =	sin 45° =	cos 45° =	tan 45° =
5c)	$\sin^{-1} 0$ =	$\cos^{-1} 0$ =	$\tan^{-1} 0$ =	$\sin^{-1} 1$ =	$\cos^{-1} 1$ =	$\tan^{-1} 1$ =
5d)	$\sin^{-1}(\frac{1}{2})$ =	$\cos^{-1}\sqrt{\frac{3}{4}}$ =	$\tan^{-1}\sqrt{3}$ =	$\tan^{-1}(1/\sqrt{3})$ =	$\sin^{-1}\sqrt{\frac{1}{2}}$ =	$\cos^{-1}(\frac{1}{2})$ =

Use Trigonometry to solve these problems. Answers must be clearly **legible**. Where possible write your answer as an **exact** integer or fraction. Otherwise use **two** decimal accuracy. Include **units** where applicable.
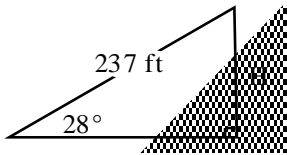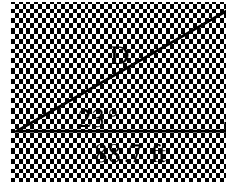
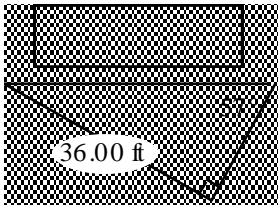1) Find H.

H =

2) Find B.

B =
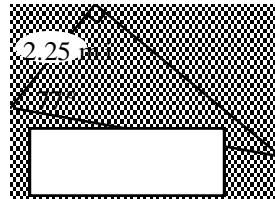
3) Find H.

237 ft

28°
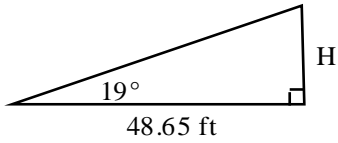
H =

4) Find D.

D =

5) Find the indicated side.

36.00 ft
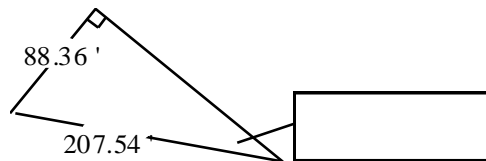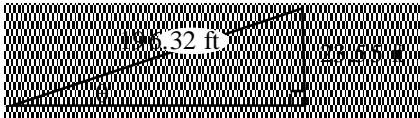
6) Find the indicated side.

2.25

7) Fill-in the indicated angle in xx.xx°.

4,987 ft

7,582 ft
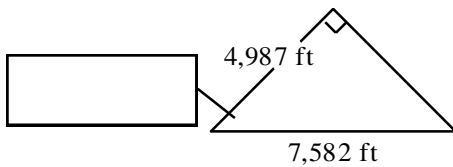
8) Fill-in the indicated angle in xx.xx°.

88.36 '

207.54

9) Find θ in DMS.

32 ft

θ =

10) Convert grade to angle in DMS.

angle =