Happy New Year.   Sheet of Paper
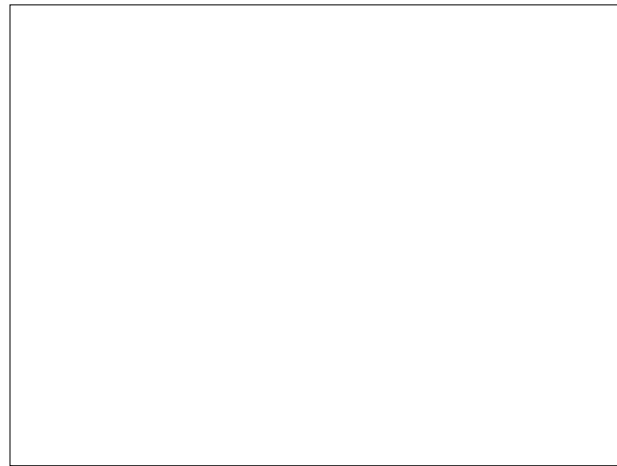
Answer the following:

1.) Are you happy with your grade 1st Sem?

2.) What grade would you like to get 2nd Sem?

3.) What are you going to do differently or the same 2nd Sem?

4.) What can I do differently or the same 2nd Sem? (Be serious)

5.) Is there anything that will get in the way of achieving your goal?

Jan 4-2:13 PM

Jan 3-1:03 PM

Prereq sheet - things you need to remember

Trig Review WS.

① SOH   CAH   TOA
   Sine   cosine   tangent
   $\frac{off}{hyp}$ $\frac{adj}{hyp}$ $\frac{off}{adj}$

always hyp

θ means "theta" angle

Ratio of sides in Rt △

② $\sin A = \frac{9}{15} = \frac{3}{5}$
   $\cos A = \frac{12}{15} = \frac{4}{5}$
   $\tan A = \frac{9}{12} = \frac{3}{4}$

   off hyp adj A

③ choose values

   $\tan 43 = \frac{29}{x}$

   $\frac{.9325}{1} = \frac{29}{x}$ cross multiply

   $\frac{.9325x}{.9325} = \frac{29 \cdot 1}{.9325}$ solve

   $x = \frac{31.099}{31.3}$

   calc:
   mode:
   Radian |degree

   $\frac{3}{5} = \frac{4}{x}$
   $3x = 4$
   $x = \frac{4}{3}$

Jan 4-2:18 PM

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④ $\cos 47 = \frac{x}{12}$ 4 decimals

$.6819 = \frac{x}{12} \cdot \frac{12}{1}$

$8.18 = x$ 2 decimals

Solve for y $\sin 47 = \frac{y}{12}$

$.7314 = \frac{y}{12}$

$8.78 = y$

option a   c = always hyp $a^2 + b^2 = c^2$

Angles in △ add to 180°
3rd ∠ #4 = 43°

⑤ add horizontal
add to right

$\tan 28 = \frac{h}{4640}$

$h = 2467.13 ft$

⑥ .4067   ⑦ 4.018

⑧ $\cos \underline{\ \ } = .5678$
Find ∠ as its cosine

$\cos^{-1}(.5678) = $ angle

$\theta = 55.4°$

⑨ 60.30°

Jan 3-1:36 PM

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⑩ Side length?

$15^2 + 7^2 = x^2$

$225 + 49 = x^2$

$274 = x^2$

$x = \sqrt{274}$ exact

$x = 16.55$ decimal approx

⑪ m∠m =
   $\tan m = \frac{15}{7}$
   to find ∠m
   $\tan^{-1}\left(\frac{15}{7}\right) = ∠m$
   $∠m = 65°$

⑫ $90 + 65 + ∠N = 180$
   $∠N = 25°$

Jan 3-1:49 PM

Flip "light"... It's a pseudo flipped classroom this semester. Don't flip on me :)

Feb 9-8:49 AM

What will it look like:

FOR CLASS MONDAY -

- You read & take notes from the section I give you Sat or Sun or BEFORE CLASS!

-You attempt -using the examples from the book- a few selected HW problems BEFORE CLASS!

- We spend class time working more problems, reviewing the notes to make sure you have all you need, and reviewing HW problems.

- You go home, finish the rest of the HW before next class, read the next section, take notes and try a few selected problems.

-We do this till May - it'll be warm, it'll be sunny, it'll be so very nice.

Jan 4-2:25 PM

If you ***don't read prior to class*** - grab a book and read, take notes, try a few problems. You're going to be behind everyone else who is solidifying their understanding while you're in Albuquerque.

-You are not allowed to say you hate flipped classrooms

-You are not allowed to say I'm not teaching you anymore

- I AM STILL TEACHING THE MATERIAL AS YOU NEED - YOU ARE NOT BEING LEFT ALONE - I WILL MAKE SURE YOU WILL UNDERSTAND IT - I"M JUST ASKING WHAT THE REST OF THE WORLD WILL ASK YOU WHEN YOU LEAVE THIS HOUSE TO TAKE CHARGE OF YOUR LEARNING AND CONTRIBUTE MORE TO YOUR EDUCATION AND TAKE CHARGE OF YOUR UNDERSTANDING - ITS ABOUT OWNING IT!!!

Jan 4-2:29 PM

Why are we doing this...don't get me started on a rant.

I'm tired from break. I need a break from break. Just trust me.

Jan 4-2:21 PM

LET'S START NOW! SO EXCITED!!!

Taking notes from a text book

GRAB A BOOK AND SIT

Jan 4-2:38 PM

Jan 11-8:14 PM

Jan 3-2:18 PM

p859   13.2 Angles

90°

counterclockwise

180°   initial   0

initial   360°

Vertex

270°

★ negative ∠'s go clockwise

a. 210°   b. 420°   c. -250°

Jan 3-2:23 PM

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6 Trigonometric Functions

Sine	Cosecant
Cosine	Secant
Tangent	Cotangent

Apr 6-8:31 AM

1st job - Evaluate 6 Trig functions

Evaluate the six trigonometric functions of the angle θ.

θ   hypotenuse

5

12

Solution

From the Pythagorean theorem, the length of the hypotenuse is $\sqrt{5^2 + 12^2} = \sqrt{169} = 13$.

$$\sin\theta = \frac{opp}{hyp} = \frac{12}{13} \qquad \cos\theta = \frac{adj}{hyp} = \frac{5}{13} \qquad \tan\theta = \frac{opp}{adj} = \frac{12}{5}$$

$$\csc\theta = \frac{hyp}{opp} = \frac{13}{12} \qquad \sec\theta = \frac{hyp}{adj} = \frac{13}{5} \qquad \cot\theta = \frac{adj}{opp} = \frac{5}{12}$$

Mar 11-8:16 PM

2ndjob - Use your calculator

EVALUATE THE FOLLOWING USING A CALCULATOR.

1. $\sin 23°$ 4. $\sin$ ____ = .89

2. $\cos 33°$ 5. $\tan$ ____ = 1.2

3. $\tan 43°$

Apr 3-8:05 AM

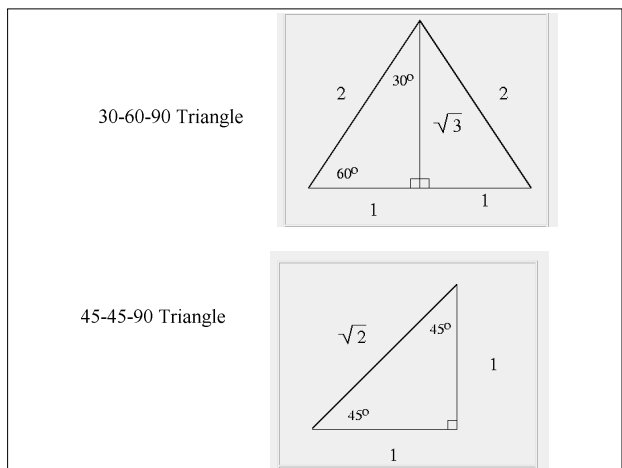Discover the relationship of the special triangles:

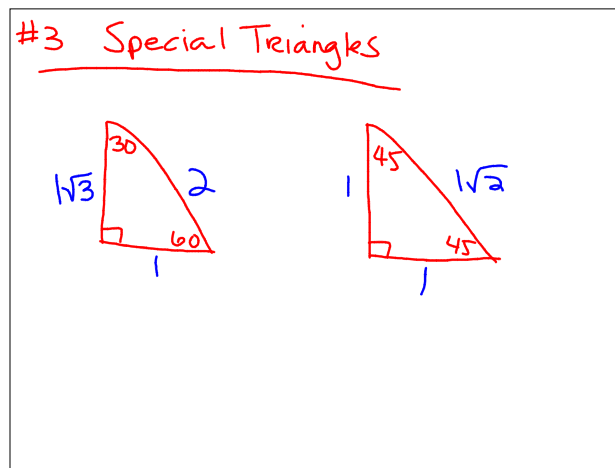Find x (the altitude)

2   2

2

Apr 1-2:58 PM

Discover the relationship of the special triangles:

Find the length of the Hypotenuse (in simplest radical form)

4    $4\sqrt{2}$

4

Apr 1-3:01 PM

30-60-90 Triangle

$30°$ 2   2 $\sqrt{3}$ $60°$ 1   1

45-45-90 Triangle

$\sqrt{2}$ $45°$ 1 $45°$ 1

Mar 11-8:19 PM

#3 Special Triangles

30   $\sqrt{3}$ 2   60   1

45   1 $\sqrt{2}$ 45   1

Jan 9-8:59 AM

3rd job - Memorize Special Values

Strategies for memorizing these special angles:

KEY CONCEPT   *For Your Notebook*

Trigonometric Values for Special Angles

The table below gives the values of the six trigonometric functions for the angles 30°, 45°, and 60°. You can obtain these values from the triangles shown.

θ	$\sin\theta$	$\cos\theta$	$\tan\theta$	$\csc\theta$	$\sec\theta$	$\cot\theta$
30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	2	$\frac{2\sqrt{3}}{3}$	$\sqrt{3}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\sqrt{2}$	$\sqrt{2}$	1
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	2	$\frac{\sqrt{3}}{3}$

Mar 30-2:31 PM

4th job - word problems

ANGLES OF SIGHT If you look at a point above you, such as the top of a building, the angle that your line of sight makes with a line parallel to the ground is called the **angle of elevation**. At the top of the building, the angle between a line parallel to the ground and your line of sight is called the **angle of depression**. These two angles have the same measure.

angle of depression

angle of elevation

you

Mar 30-2:18 PM

EXAMPLE 6   **Use an angle of elevation**

PARASAILING A parasailer is attached to a boat with a rope 300 feet long. The angle of elevation from the boat to the parasailer is 48°. Estimate the parasailer's height above the boat.

Solution

STEP 1   **Draw** a diagram that represents the situation.

STEP 2   **Write** and solve an equation to find the height h.

300 ft h 48°

$\sin 48° = \dfrac{h}{300}$ **Write trigonometric equation.**

$300(\sin 48°) = h$ **Multiply each side by 300.**

$223 \approx h$ **Use a calculator.**

▶ The height of the parasailer above the boat is about 223 feet.

Mar 30-2:16 PM

13.2 General Angles and Radian Measure

counterclockwise!!!!

y 90   terminal side   vertex   initial side   180   0   x   360   270

An angle is in Standard Position if its vertex is at the origin and the initial side is the positive x axis

angles.

6

Feb 9-8:07 AM

Draw angles in degrees

Draw 47°   Draw 120°   Draw -200°

Feb 3-10:24 AM

BYBYBY

Read section 13.2 pg
TRY

Feb 3-10:24 AM

Jan 4-3:06 PM