Starter #1

1. Is the function odd, even, or neither?

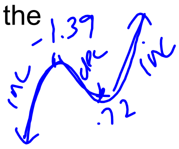
$f(x)=x^2+1$ $\quad (-x)^2+1 \quad x^2+1$

2. If $f(x)=x^3$ Where does the point (0,0) move to when the following transformations are applied

$f(x+3)+2$ left 3, up 2 $\quad (-3,2)$

3. Identify the intervals where the function is increasing.

$f(x)= x^3+x^2-3x+2$



Inc: $(-\infty,-1.39)\cup(.72,\infty)$

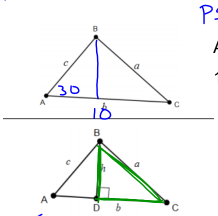
Jan 19-2:35 PM

Remember to finish your SLO review from last time

Nov 28-12:36 PM

6.1 Area of a Triangle

Math 3 book 2 Pg. 4



Area of a triangle:

1/2 (base)(height)

$A=\frac{1}{2}\cdot b\cdot h$

$\frac{1}{2}\cdot b\cdot h$

SOH-CAH-TOA

$\sin A=\frac{h}{c}$

$c\cdot \sin A = h$

$\text{Area}=\frac{1}{2}\cdot b(c\sin A)$

$\sin C=\frac{h}{a}$

$a\cdot\sin C = h$

$\frac{1}{2}\cdot b\cdot a\sin C$

$\text{Area}=\frac{1}{2}ac\sin B$

Jan 19-2:40 PM

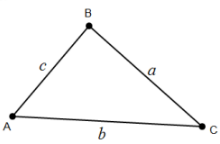
When you draw the triangle the Angle and the side with the same letter are across from each other

Use the angle that is given as the top angle

Nov 28-12:45 PM

Area of a Triangle Given Two Sides and the Included Angle

The area of a triangle is half the product of the lengths of two sides and the sine of the included angle.



$\text{Area}=\frac{1}{2}bc(\sin A)$

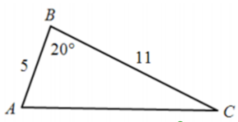
$\text{Area}=\frac{1}{2}ac(\sin B)$

$\text{Area}=\frac{1}{2}ab(\sin C)$

Jan 19-2:44 PM

Find the area of the triangle.

Ex 1)



1. Identify the angle given $\angle B$

2. Sub in the formula $\quad \text{Area}=\frac{1}{2}ac\sin B$

$\text{Area}=\frac{1}{2}\cdot 11\cdot 5\cdot \sin 20°$

Make sure you are in Degree mode

$\boxed{\text{Area}=9.406}$

Nov 28-12:39 PM

Ex 2) b = 13, c = 7 and m<A = 43°

$\text{Area} = \frac{1}{2} \cdot b \cdot c \cdot \sin A$

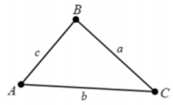
$\frac{1}{2} \cdot 13 \cdot 7 \cdot \sin 43$

$\boxed{31.031}$

Nov 28-12:44 PM

Law of Sines

For any $\triangle ABC$, the Law of Sines relates the sine of each angle to the length of the side opposite the angle.



$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

A = a =
B = b =
C = c =

Solve the triangle

Nov 28-12:41 PM

Use the Law of Sines to solve the triangle
Solve all angles and all sides. Round your answers to 3 decimal places.

B = 35° C = 105° b = 7

$\boxed{A = 40°}$ $\boxed{a = 7.845}$ $\frac{\sin B}{b} = \frac{\sin C}{c}$
B = 35° b = 7
C = 105° $\boxed{c = 11.788}$

$\frac{\sin 35}{7} = \frac{\sin 105}{c}$ cross multiply

$c \cdot \sin 35 = 7 \cdot \sin 105$

$\frac{c \cancel{\sin 35}}{\cancel{\sin 35}} = \frac{7 \cdot \sin 105}{\sin 35}$

$c \approx 11.788$

Nov 28-12:41 PM

$$\frac{\sin 35}{7} = \frac{\sin 40}{a}$$

$a = 7.845$

Nov 29-10:44 AM

The sum of the angles in a triangle is 180°

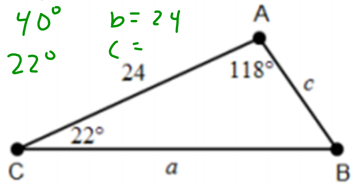
$105 + 35 + A = 180$

$140 + A = 180$

$A = 40°$

Nov 29-10:43 AM

Ex 4) A = 118° a =
B = 40° b = 24
C = 22° c =



118
+22
140

180
-140
40

Nov 28-12:43 PM

If you are only given one angle you use the inverse sine to find the second angle.

$\sin^{-1}$

To do this in the calculator you press

$\boxed{\text{2nd}}\ \boxed{\text{sin}}$

Nov 29-9:50 AM

#13 A= 40° a= 20

B= 28.822° b= 15

C= c=

$$\frac{\sin 40}{20} = \frac{\sin B}{15}$$

$$15 \sin 40 = 20 \cdot \sin B$$

$$\frac{15 \sin 40}{20} = \frac{\cancel{20} \sin B}{\cancel{20}}$$

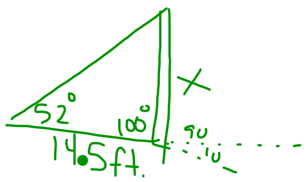
$$\frac{15 \sin 40}{20} = \sin B$$

$$\sin^{-1}\left(\frac{15 \sin 40}{20}\right) = B$$

$$\boxed{28.822^\circ = B}$$

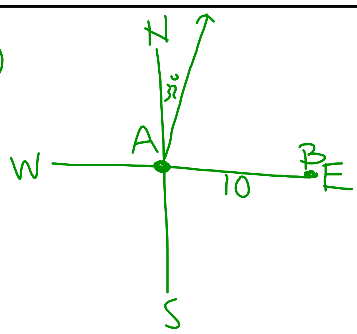
Nov 29-9:51 AM

17



Nov 29-10:56 AM

16



Nov 29-10:59 AM