

$\sin x = \frac{O}{H}$
 $\cos x = \frac{A}{H}$
 $\tan x = \frac{O}{A}$

$\tan x = \frac{6}{2}$
 $x = 40.6^\circ$
 $\tan x = 0.85x$

Jan 9-9:14 AM

AREA OF A TRIANGLE

General formula: $A = \frac{b \times h}{2}$

Trigonometric formula SAS: $A = \frac{ac \sin B}{2}$

Hero's formula SSS: $A = \sqrt{p(p-a)(p-b)(p-c)}$

$A = \frac{(7)(6)(\sin 50^\circ)}{2}$
 $p = \frac{a+b+c}{2}$

**where P = 1/2 the perimeter:

$p = \frac{a+b+c}{2}$
 $\frac{6+7+8}{2}$

Dec 6-1:54 PM

Calculate the area of the following triangles using the appropriate formula:

a) SAS: $A = \frac{(5)(4)(\sin 40^\circ)}{2} = 7.5 \text{ cm}^2$

b) SAS: $A = \frac{(5)(4)(\sin 40^\circ)}{2} = 7.5 \text{ cm}^2$

c) SAS: $A = \frac{(5)(4)(\sin 40^\circ)}{2} = 7.5 \text{ cm}^2$

$p = \frac{3+5+4}{2} = 7$
 $A = \sqrt{p(p-a)(p-b)(p-c)} = \sqrt{7(7-3)(7-5)(7-4)} = \sqrt{7(4)(2)(3)} = \sqrt{168} = 12.96 \text{ cm}^2$

Dec 8-12:07 PM

d) SAS: $A = \frac{(6)(4)(\sin 40^\circ)}{2} = 7.5 \text{ cm}^2$

e) SAS: $A = \frac{(6)(3)(\sin 80^\circ)}{2} = 10.63 \text{ cm}^2$

f) SSS: $p = \frac{3+4+5}{2} = 6$
 $A = \sqrt{6(6-3)(6-4)(6-5)} = \sqrt{6(3)(2)(1)} = \sqrt{36} = 6 \text{ cm}^2$

$p = \frac{8+4+6}{2} = 9$
 $A = \sqrt{9(9-8)(9-4)(9-6)} = \sqrt{9(1)(5)(3)} = \sqrt{135} = 11.62 \text{ cm}^2$

Dec 8-12:29 PM

PT $\Rightarrow a^2 + b^2 = c^2$

$\cos x = \frac{a}{c} = \frac{6}{10} = 0.6$
 $\cos x = \frac{b}{c} = \frac{8}{10} = 0.8$
 $x = 33.56^\circ$

$A = \frac{(6)(8)(\sin 33.56^\circ)}{2} = 8.29 \text{ cm}^2$

Jan 10-11:21 AM