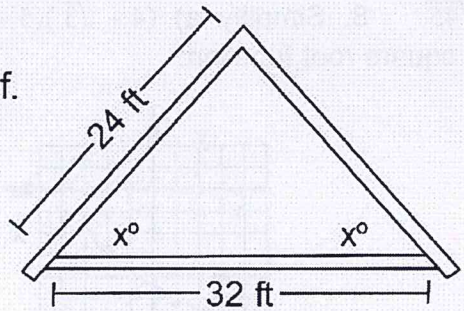
Bellwork Alg 2 Tuesday, February 19, 2019

1. Find all VA and Holes, if any. $\dfrac{6x^5 - 96x}{2x^4 + 4x^3 - 18x^2 - 36x}$

VA: Holes:

2. An architect drew the figure at the right while designing a roof. The dimensions shown are for the interior of the triangle.

What is the value of Cos X?



Note: Figure not drawn to scale.

3. The sum of three numbers is 855. One of the numbers, x, is 50% more than the sum of the other two numbers. What is the value of x?

A. 570 B. 513 C. 214 D. 155

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ANSWERS

1. Find all VA and Holes, if any. $\dfrac{6x^5 - 96x}{2x^4 + 4x^3 - 18x^2 - 36x}$

VA: $x = \pm 3$ Holes: $x = 0, -2$

$6x^5 - 96x$

$6x(x^4 - 16)$

$6x(x^2+4)(x^2-4)$

$6x(x^2+4)(x+2)(x-2)$

$2x^4 + 4x^3 - 18x^2 - 36x$

$2x(x^3 + 2x^2 - 9x - 18)$

	x	$+2$
x^2	x^3	$+2x^2$
-9	$-9x$	-18

$2x(x+2)(x^2-9)$

$2x(x+2)(x+3)(x-3)$

$$\frac{6x(x^2+4)(x+2)(x-2)}{2x(x+2)(x+3)(x-3)}$$

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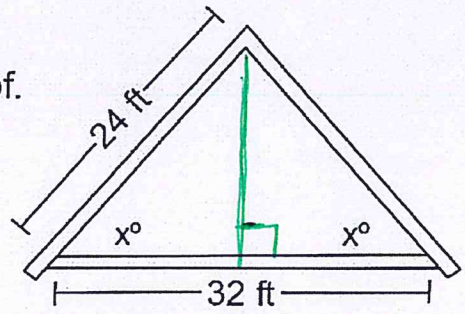

Note: Figure not drawn to scale.

$\cos X = \frac{16}{24}$

SOHCAHTOA

$\cos X = \dfrac{\text{ADJACENT LEG}}{\text{HYPOTENUSE}}$

3. The sum of three numbers is 855. One of the numbers, x, is 50% more than the sum of the other two numbers. What is the value of x?

A. 570 B. 513 C. 214 D. 155

$x + y + z = 855$

$-x \quad -x$

$y + z = 855 - x$

$x = 1.5(y+z)$

$x = 1.5(855 - x)$

$x = 1282.5 - 1.5x$

$+1.5x \quad +1.5x$

$\frac{2.5x}{2.5} = \frac{1282.5}{2.5}$

$x = 513$