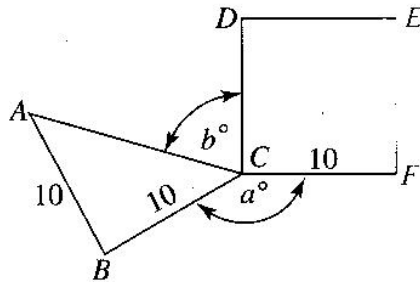


S.M.ART School Homework for MCB3 due 10-04-2022

At the class on 10-04-2022. We will discuss the previous homework issues we did not get to at the last class.

H1



In the figure above, C is the only point that right triangle ABC and square $CDEF$ have in common. What is the value of $a + b$?

- (A) 135
- (B) 180
- (C) 210
- (D) 225
- (E) 270

H2

A rectangle is twice as long as it is wide. If the width is a , what is the length of a diagonal?

- (A) $a\sqrt{2}$
- (B) $a\sqrt{3}$
- (C) $a\sqrt{5}$
- (D) $3a$
- (E) $5a$

H3 The sum of the legs of a right triangle is 49 inches; and the hypotenuse is 41 inches. Find the legs of the triangle.

H4 Angle A of a triangle is two-thirds the size of angle B. Angle B is three-sevenths of angle C. Find all three angle measures.

H5 If the height of a triangle is five inches less than the length of its base, and if the area of the triangle is 52 square inches, find the base and the height.

Graph functions

F1 $y = x^2 + 8x - 20$

F2 $y = x^2 - 8x - 20$

F3 $y = x^2 - 8|x| - 20$

F4 $y = x^2 - x|x|$

F5 $y = x^2 - x/|x|$

F6 $y = (x - 1) * (x + 1) * (x - 2)$

E1 Solve equation

$$x^2 - 5x - \frac{6|x|}{x} = 0$$

E2 Solve equation $\sqrt{12 - x} = x$

Solve Inequality

I1 $(2x - 1) * (x + 3)^4 \geq 0$

I2 $(x - 3)^{11} * (x - 2)^6 > 0$

I3 $(x - 3)^6 * (x - 2)^{11} > 0$

Which of the following pairs of inequalities are equivalent to each other?

V1 $5 / (x - 3) < 1$ AND $x - 3 > 5$

$$V2 \quad (2*x - 7) * x < 0 \quad \text{AND} \quad x / (2*x - 7) < 0$$

$$V3 \quad (3*x - 5) * (5 + 2*x) \geq 0 \quad \text{AND} \quad (3*x - 5) / (5 + 2*x) \geq 0$$