

Name: _____
 Date: _____
 Class: _____

Geometry
 Review
 Graded Homework 4

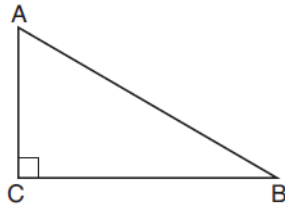
Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth.

1) [3] Write the equation of a line that is perpendicular to a 2nd line which passes through (-4, 5) and (-1, 1). The new line passes through (-2, -2).

2) [3] If an isosceles triangle has two legs represented by $2x - 5$ and $4x - 27$, find a range for the length of the base of this isosceles triangle if the base must be the shortest side.

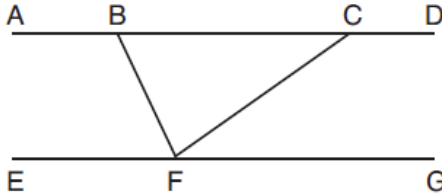
3) [4] Solve using complete the square: $2x^2 - 4x - 7$

4) [3] In scalene triangle ABC shown in the diagram below, $m\angle C = 90^\circ$.

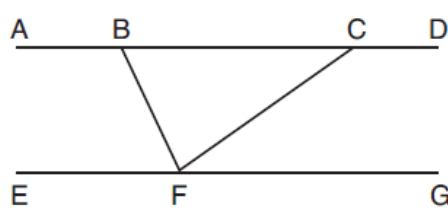


Which equation is always true?

- (1) $\sin A = \sin B$ (3) $\cos A = \sin C$
 (2) $\cos A = \cos B$ (4) $\sin A = \cos B$

5) [4]  If $m\angle ABF = 10x - 8$, $m\angle CBF = 6x - 20$
 And $m\angle BFE = 4x + 6$ is $\overline{AD} \parallel \overline{EG}$?

6) [4]

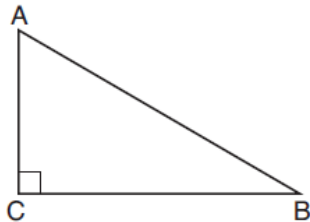


If $\overrightarrow{AD} \parallel \overrightarrow{EG}$ and $m\angle FBC = x^2 + 3x + 13$
 $m\angle ABF = 20x - 7$, and $m\angle FCB = 4x + 8$
 Find $m\angle BFC$ and justify your answer.

7) [3] If two sides of a right triangle are 4 and 7 find the two possible lengths for the 3rd side of this triangle.

8) [3] If two sides of an equilateral triangle are represented by $x^2 + 2x + 12$ and $2x^2 - 8x - 12$ find the perimeter of this triangle.

9) [3]



If $AB = 12$ and $BC = 8$ find $m\angle A$ to the nearest hundredth.

10) [4] If you are standing on the edge of the roof of your house and looking down at a dog sleeping in the yard with an angle of depression of 32° find the distance the dog is from the base of the house if you are standing 18 feet off the ground.?