Geometry Test 2

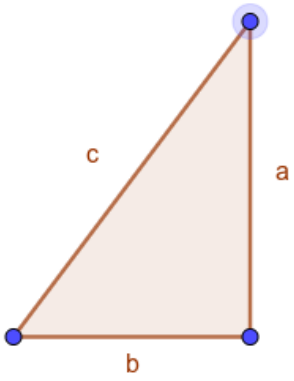
Work in your notebook. Show all work for credit!

1. Calculate: $\sqrt{49}$

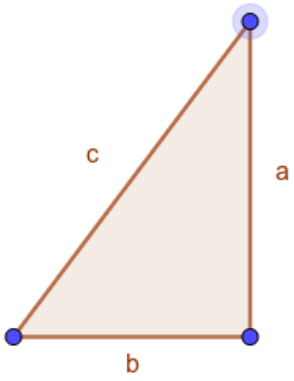
2. Calculate: $\sqrt{6^2 + 8^2}$

3. Calculate: $\sqrt{0.81}$

4. In the right triangle shown below $a = 12$, $b = 5$, solve for c:

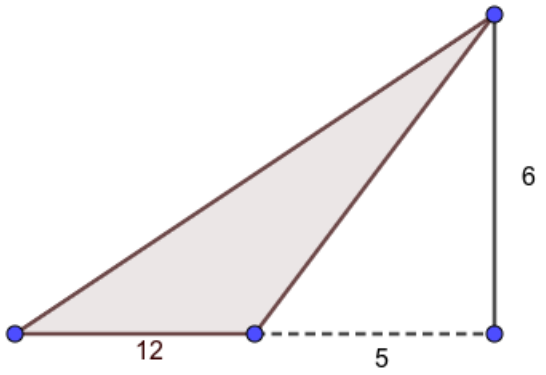


5. In the right triangle shown below $b = 6$, $c = 10$, solve for a:



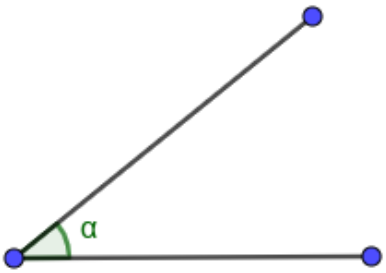
6. Is a triangle with sides $1, \sqrt{2}, \sqrt{3}$ a right triangle?

7. Find the area of the **shaded** triangle shown below:



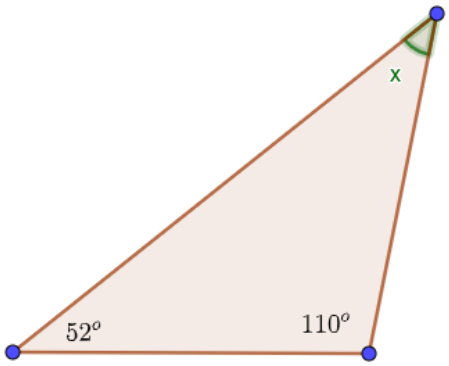
8. Plot the points $A = (-1, 3)$ and $B = (2, 7)$ and calculate the distance between them.

9. Duplicate the angle shown below in your notebook **only using a straight edge and a compass.** You may not use a protractor! Describe how you did it.

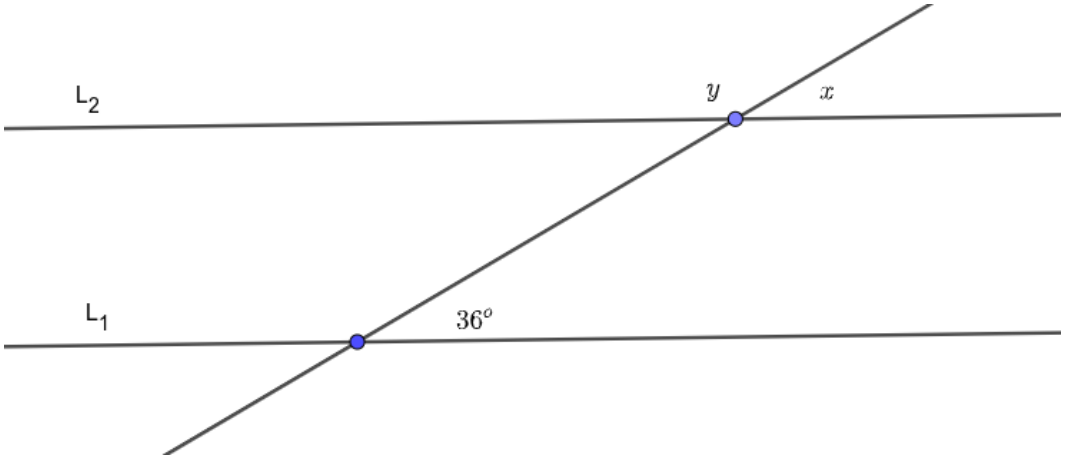


10. Find the equation of the line between the points $(2, 1)$ and $(4, 7)$, and sketch the graph.

11. In the triangle below, find the missing angle without using a protractor.



12. In the diagram below solve for the angles x and y. Do not use a protractor.



13. (Extra Credit:) Our second Pythagorean Theorem proof relied on using 4 copies of the triangle to make a large square with a small square in the center.

    (a) Draw a picture of that.

    (b) Use that picture to write an equation calculating the area of the square in 2 different ways. This is what we did to start our equation in the proof of the Pythagorean Theorem.

    (c) Use that equation to prove the Pythagorean Theorem.

14. (Extra Credit) Find the distance between the points $A = (1, 2, 3)$ and $B = (4, 0, 1)$.

15. (Extra Credit): Write a paragraph about your biography mathematician. Include at least 3 sentences.