

4) (6 points) You travel 7 miles due south, 3 miles due east, 1 mile due north, and then 5 more miles due east.

a) How far are you from your starting point?

b) On a map with scale 1 cm to 8 miles, this distance would be shown as _____ cm.

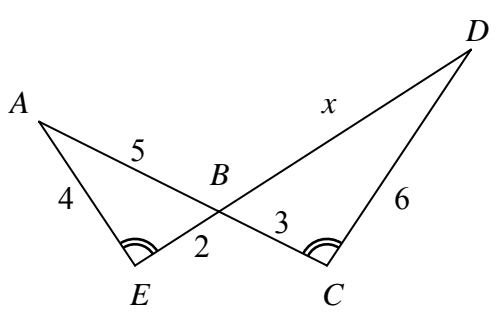
5) (6 points) The figure shows a square and a semicircle. Circle the area and the perimeter of the shaded part.

PM 6B P37 #3	Area	16(2 - π)	32π	8(8 - π)	56π	32(2 - π)
	Perimeter	4(6 + π)	28π	4(8 + π)	32π	8(3 + π)

6) (8 points) In the figure, find the perimeter of $\triangle RST$.

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7) (12 points) In the figure, AC and DE are segments.



a) Give a 4-step similarity test:

 \triangle _____ \sim \triangle _____ ()

b) $x =$ _____ cm.

c) If $\text{Area}(\triangle ABE) = 3.2 \text{ cm}^2$, then $\text{Area}(\triangle BCD) =$ _____ cm^2 .

8) (8 points) Give a Teacher Solution including a sketch:

The length of a rectangle is 3 cm greater than its width. If the perimeter is 34 cm, find the width and the length.

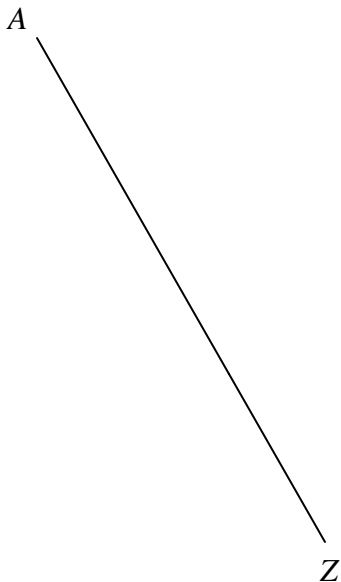
9) (8 points) Give a Teacher Solution including a sketch:

A rectangular container, 15 cm long and 10 cm wide, contains water to a depth of 4 cm.

What would be the new height of water, after a stone of volume 0.3 liters is submerged in the water?

10) (8 points) Using your straightedge and compass, divide \overline{AZ} into 3 equal parts.

(List of steps is not required!)



11) (8 points) Teacher Explanation: Draw pictures and give brief short-sentence explanations accompanying your pictures, to explain the “pizza method” demonstration of “the area formula of a circle”.

12) (8 points) Teacher Explanation: Draw pictures and give brief short-sentence explanations accompanying your pictures, to explain the “similar triangles” demonstration of “the Pythagorean Theorem”.

13) (8 points) In the picture $\overline{BC} \parallel \overline{DE}$. Prove that the two triangles are similar.

