

10.2  
#14 a) The perimeter of the trapezoid is calculated as follows:  
We sum the lengths of the sides. So, the trapezoid's perimeter is 149 mm.

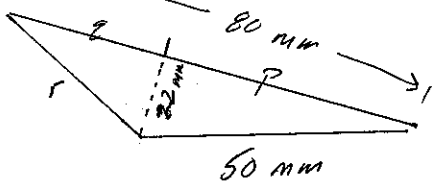
The area is calculated as follows (see p. 678)

$$A \approx \frac{1}{2}(30)(20+58) \text{ mm}^2$$

$$\approx 1170 \text{ mm}^2$$

So, the trapezoid's area is approximately 1170 mm<sup>2</sup> or 11.70 cm<sup>2</sup>

b) The triangle has one side's measurement not given. The length of that side will be determined by using the Pythagorean theorem.



$$22^2 + p^2 = 50^2$$

$$p \approx 44.9 \text{ mm}$$

$$q \approx (80 - 44.9) \text{ mm} \approx 35.1 \text{ mm}$$

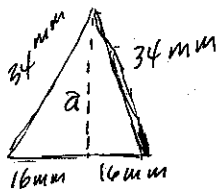
$$\text{So, } r \approx \sqrt{22^2 + 35.1^2} \approx 41.4 \text{ mm}$$

So, the perimeter is approximately (50 + 80 + 41.4) mm or 171.4 mm

The triangle's area is  $\frac{1}{2}(22)(80) \text{ mm}^2$  or 880 mm<sup>2</sup>

So, in cm<sup>2</sup> the area is 8.80 cm<sup>2</sup>

10.2  
#18 b



This triangle's altitude a is found as follows

$$a = \sqrt{34^2 - 16^2} \text{ mm} \approx 30 \text{ mm}$$

$$\text{So, its area is } \frac{1}{2}(30)(32) \text{ mm}^2 \text{ or } 480 \text{ mm}^2 = 4.8 \text{ cm}^2$$

Its perimeter is 100 mm.