

MATH 106 - QUIZ 5

Name Koey

Show all work necessary. Use complete sentences for any explanations. Point values are indicated. Good luck!

1. (2 points) Which of the following would be most appropriate for measuring the area of a football field?
- a. square inches
  - b. square feet
  - c. square yards
  - d. miles

2. (1 point each) Complete the following conversions:

a.  $125 \text{ m} = \underline{12500} \text{ cm}$

b.  $357.6 \text{ ml} = \underline{0.3576} \text{ L}$

c.  $\underline{126} \text{ in} = 3.5 \text{ yd}$

d.  $\underline{2400000} \text{ m}^2 = 2.4 \text{ km}^2$

e.  $9 \text{ yd}^2 = \underline{81} \text{ ft}^2$

f.  $8.9 \text{ mm}^2 = \underline{0.89} \text{ cm}^2$

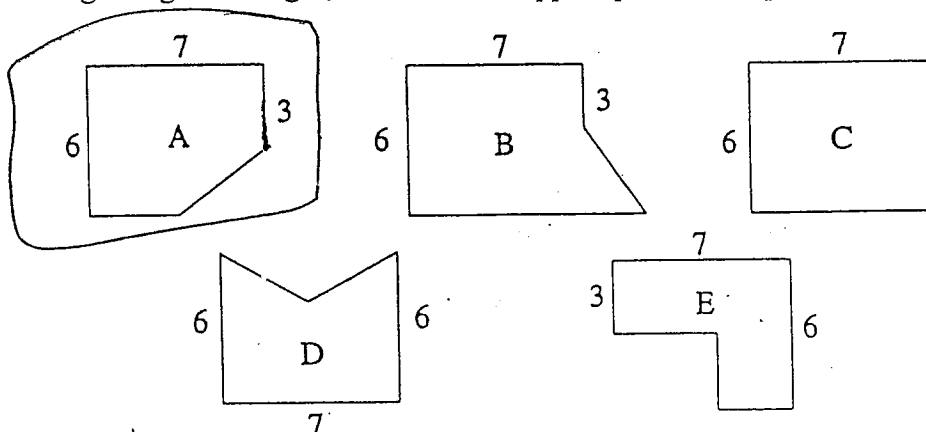
g.  $2.4 \text{ L} = \underline{2400} \text{ cm}^3$

$1 \text{ cm}^3 = 1 \text{ mL} = 1000 \text{ mL}$

*Handwritten notes:*  
 $36'' = 1 \text{ yd}$   
 $(3 \text{ ft})^2 = 1 \text{ yd}^2$   
 $9 \text{ ft}^2 = 1 \text{ yd}^2$   
 $(1000 \text{ m})^2 = (1 \text{ km})^2$   
 $1000000 \text{ m}^2 = 1 \text{ km}^2$   
 $10 \text{ mm} = 1 \text{ cm}$   
 $100 \text{ mm}^2 = 1 \text{ cm}^2$

*Unit conversion key:*  
 K  
 H  
 da  
 m/L/g  
 d  
 c  
 m

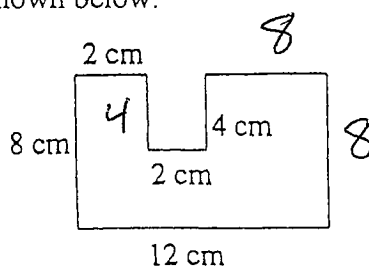
3. (3 points) For each figure below, 2 or more of the lengths of the sides are given. Which of the figures **could** have a perimeter of 24 units? (Assume angles that look like right angles are right, and lines that appear parallel are parallel)



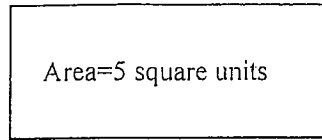
others must be longer

4. (3 points) Find the perimeter of the shape shown below:

perimeter = 48 cm



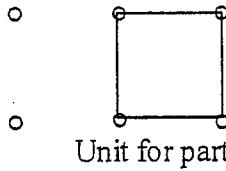
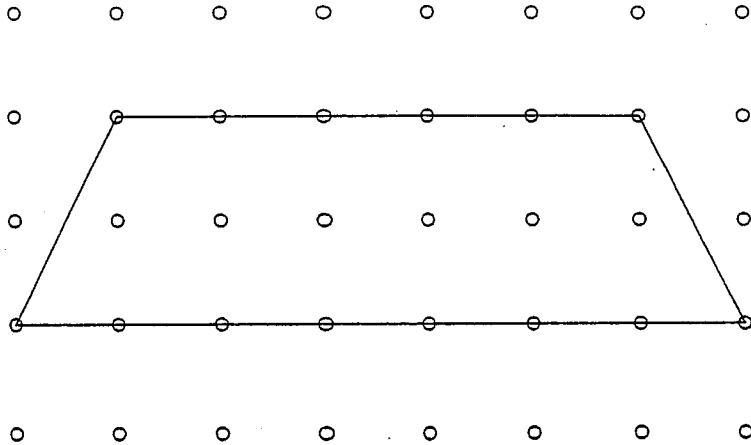
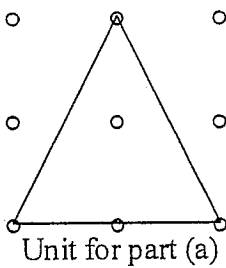
5. (2 point) What is the area of a rectangle similar to the one shown with a size change of scale factor 4?



$$\begin{aligned} \text{new area} &= SF^2 \times \text{old area} \\ &= (4)^2 \times 5 \\ &= 16 \times 5 \end{aligned}$$

Area of new rectangle = 80 square units.

6. (4 points) Find the area of the trapezoid below using (a) the triangular region below as the unit of measurement, (b) the square region below as the unit of measurement:



a. 6

b. 12

7. (4 points) Find the volume and surface area of the figure shown, use the natural unit.

Volume = 13 <sup>cube</sup> units

Surface area = 46 square units

