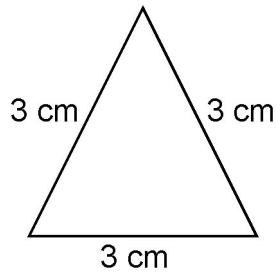## Part 1: Classify Triangles

1. Classify each triangle according to its side lengths.

   a)

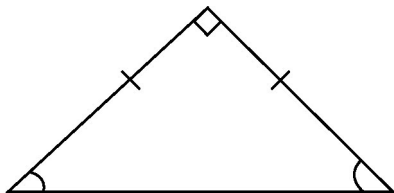   3 cm 3 cm

   3 cm
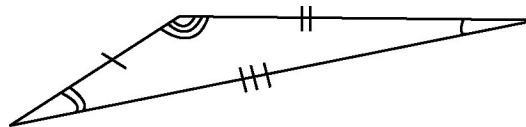
   b)

   25 m 25 m

   40 m
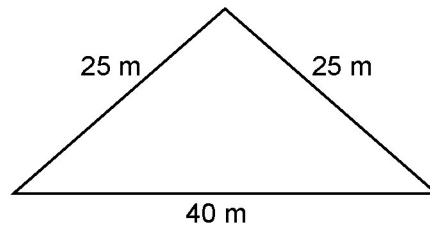
2. Classify each triangle according to its side lengths and angle measures.
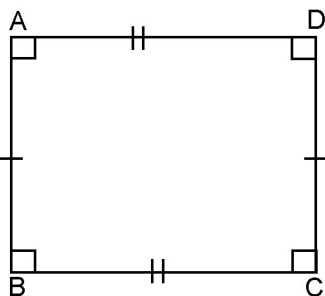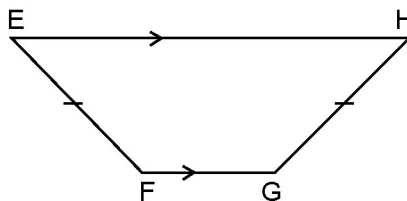
   a)

   b)

Part 2: Classify Polygons

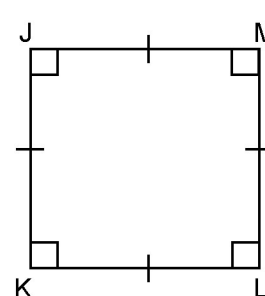3. Is each quadrilateral regular or irregular? Name each quadrilateral.

   a) A D

   B C

   b) E H

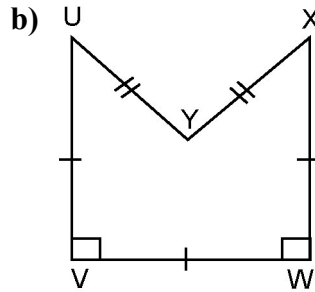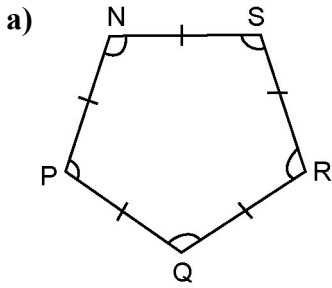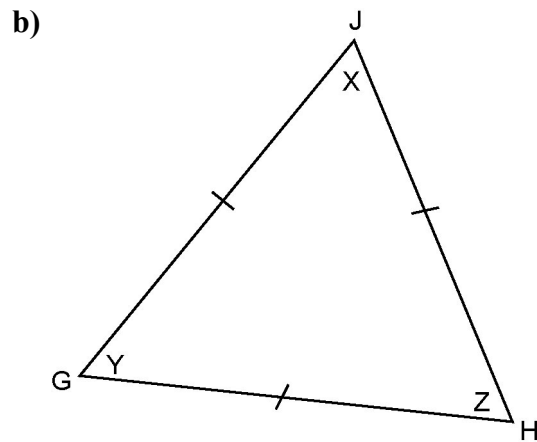   F G

   c) J M

   K L

4. Is each polygon regular or irregular? Classify each polygon according to its number of sides.

a)

N   S

P   R

Q

b) U   X

Y

V   W

c)

C

A

B
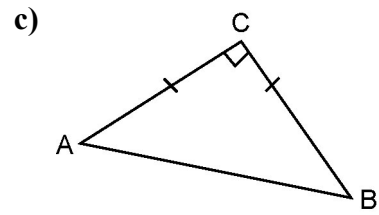
Part 3: Angle Properties

5. Find the measures of the indicated angles.

a)

F

X

D 47°

52°

E

b)

J

X

G Y

Z

H
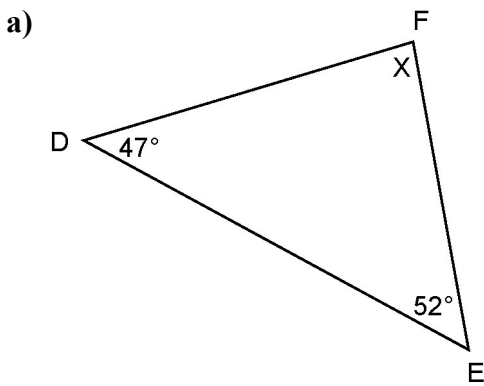
6. Find the measures of the indicated angles. Give reasons for your answers.

a)

b

c a

45°

b)

105°

c a

b
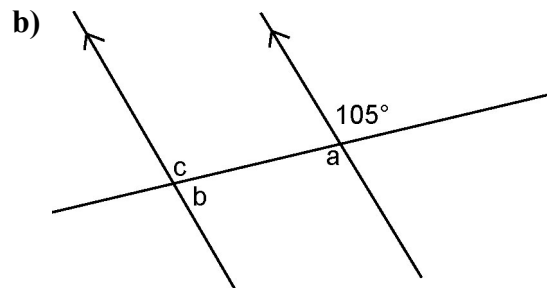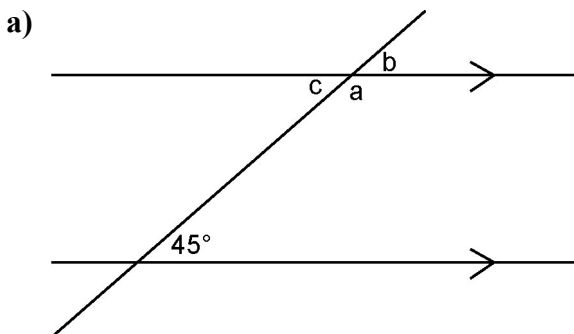
Answers

1. **a)** equilateral triangle
   b) isosceles triangle
2. **a)** right isosceles triangle
   b) obtuse scalene triangle
3. **a)** irregular; rectangle
   b) irregular; trapezoid
   c) regular; square
4. **a)** regular; pentagon
   b) irregular; hexagon
   c) irregular; triangle
5. **a)** $x = 81°$ **b)** $x = y = z = 60°$
6. **a)** $a = 135°; b = 45°; c = 45°$
   b) $a = 105°; b = 75°; c = 105°$