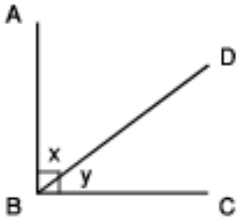
Chapter 7 Exam Review
MPM1D
Jensen

Section 1: Angle Theorems

1. Fill in the blanks

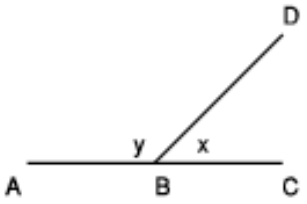
Complementary Angles (CA)



If AB ⊥ BC

then $x + y =$ _____

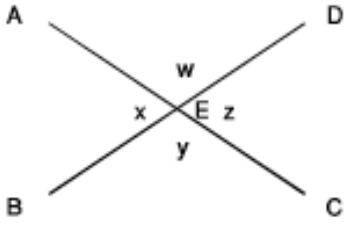
Supplementary Angles (SA)



If ∠ABC is a _____ _____

then ____ + ____ = _____

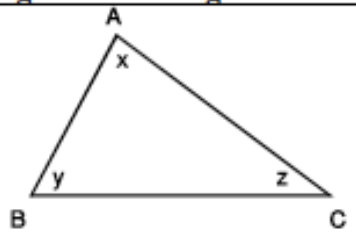
Opposite Angle Theorem (OAT)



If AC and BD are line segments intersecting at E,

then ____ = ____ and ____ = ____

Sum of Angles in a Triangle Theorem (SATT)

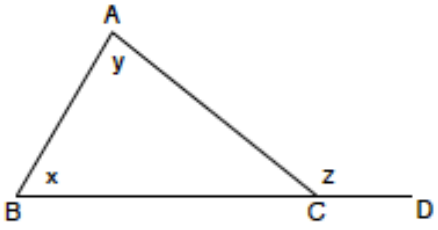


In any triangle _____

_____

that is: ____ + ____ + ____ = _____

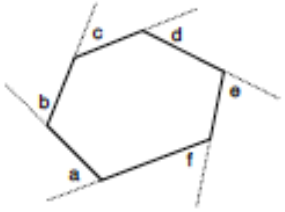
Exterior Angle Theorem (EAT)



If ∠ACD is an _____ _____

then ____ + ____ = _____

Sum of Exterior Angles Theorem (SEAT)



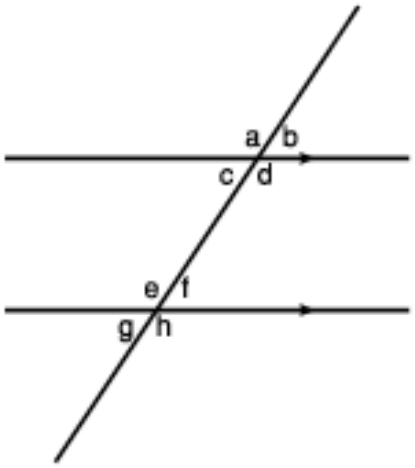
In any polygon, the sum of all exterior angles (one per vertex) is always equal to _____.

In the example above a+b+c+d+e+f = _____

Sum of Angles in a Polygon Theorem (SAPT)

In an *n*-sided polygon (*n*-gon), the sum of the interior angles is given by _____

2. Fill in the blanks on the following diagram



In each diagram below:

① Mark the parallel lines.

② Mark the letters of the angles which make the pattern.

③ Complete the equation using the same two letters as in the diagram.

PLT - Z

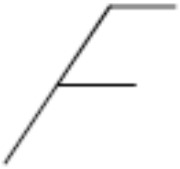
(Alternate Angles)

____ = ____

____ = ____

PLT - F

(Corresponding Angles)



____ = ____

____ = ____

PLT - C

(Co-Interior Angles)

____ + ____ = ____

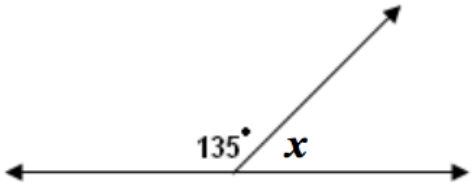
____ + ____ = ____

____ = ____

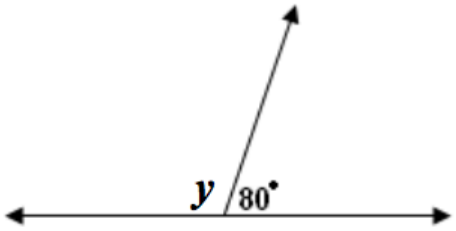
____ = ____

3. Find the missing angle measures in each diagram

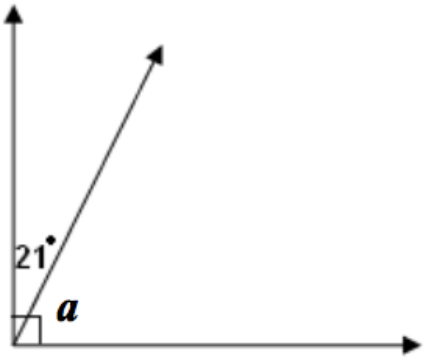
a)



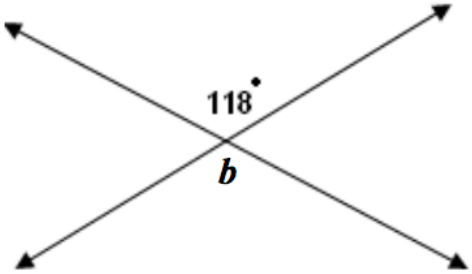
b)



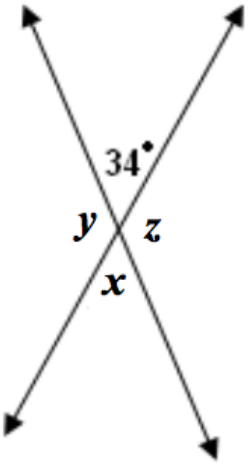
c)



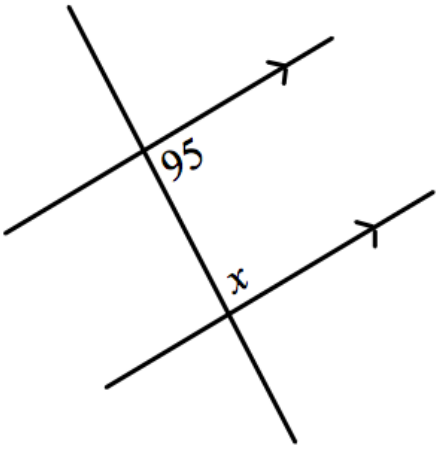
d)



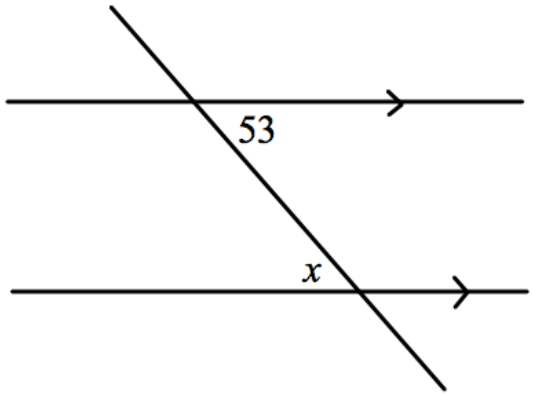
e)



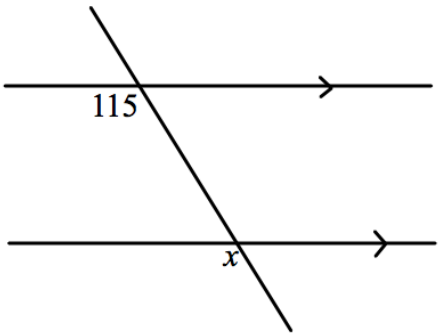
f)



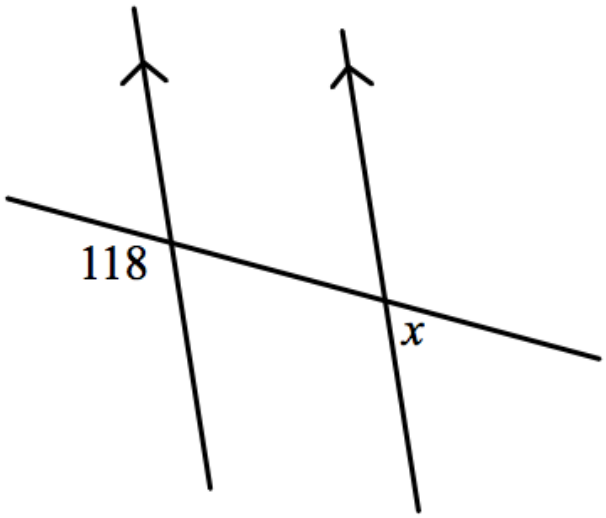
g)



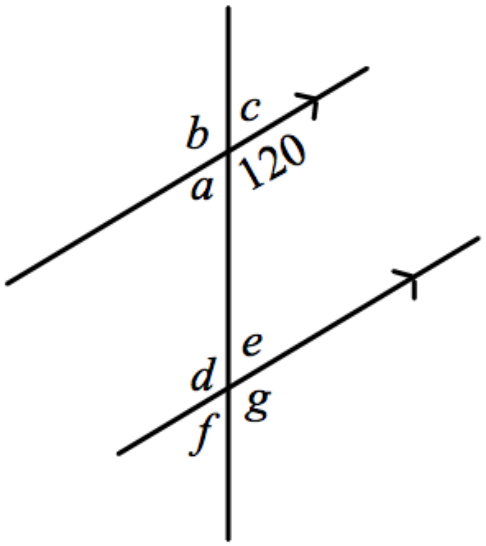
h)



i)

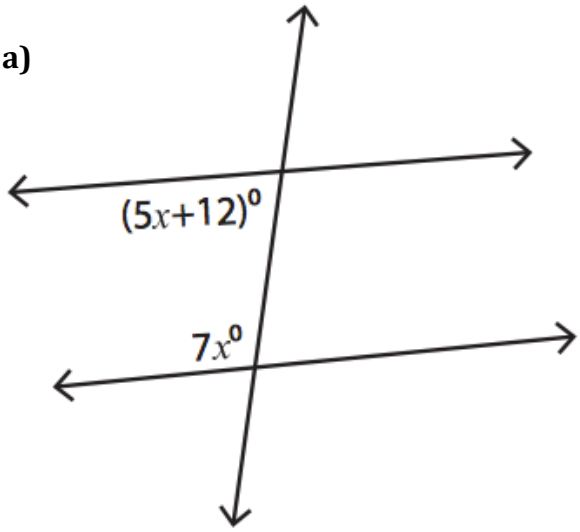


j)

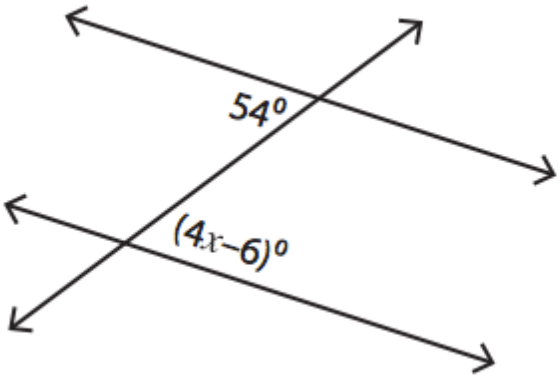


4. Solve for x

a)

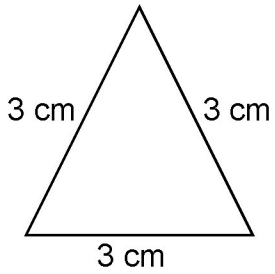


b)

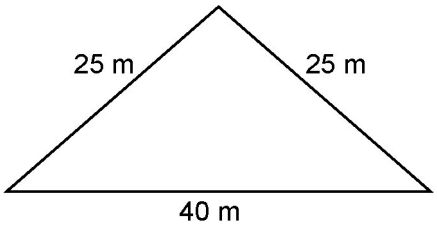


5. Classify each triangle according to its side lengths.

a)

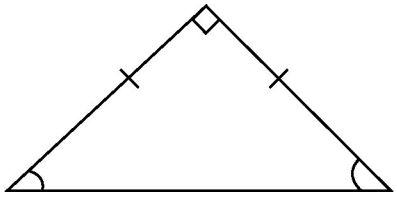


b)

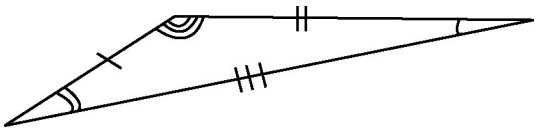


6. Classify each triangle according to its side lengths and angle measures.

a)

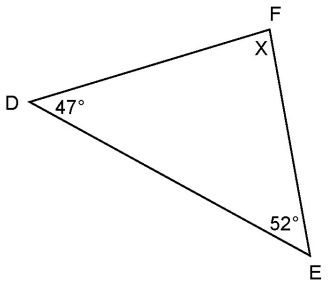


b)

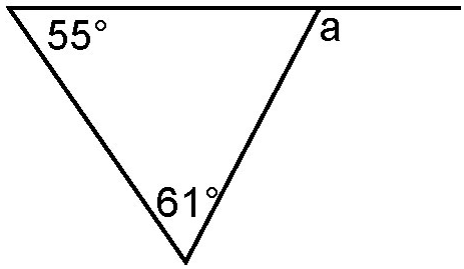


7. Find the measure of the indicated angles

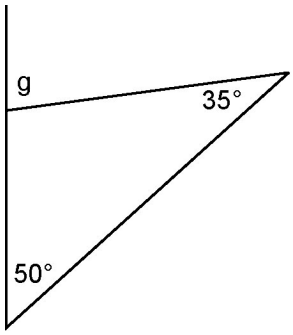
a)



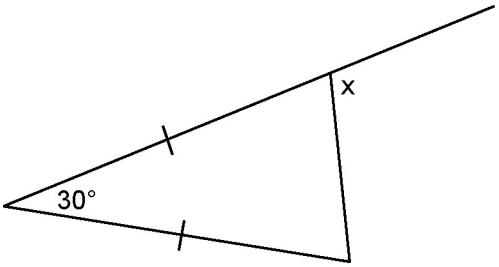
b)



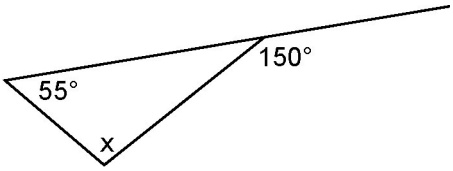
c)



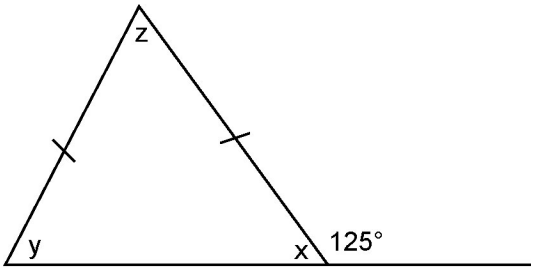
d)



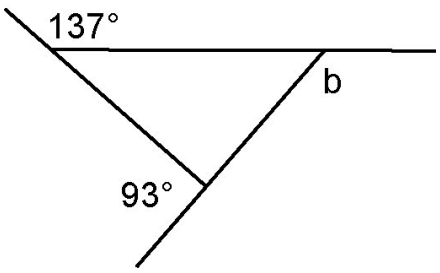
e)



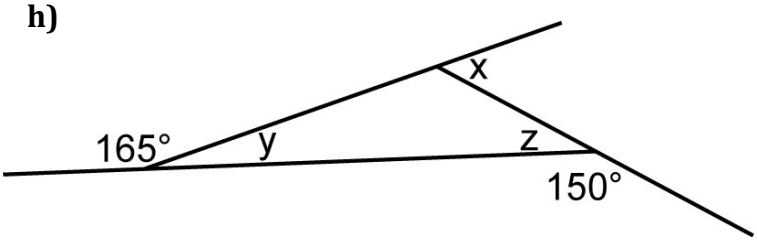
f)



g)



h)



Answers

1) & 2) See posted solutions

3) a) $x = 45°$ **b)** $y = 100°$ **c)** $a = 69°$ **d)** $b = 118°$ **e)** $x = 34°, y = 146°, z = 146°$ **f)** $x = 85°$

g) $x = 53°$ **h)** $x = 115°$ **i)** $x = 62°$ **j)** $a = 60°, b = 120°, c = 60°, d = 120°, e = 60°, f = 60°, g = 120°$

4) a) $x = 14$ **b)** $x = 15$

5) a) equilateral **b)** isosceles

6) a) isosceles, right triangle **b)** scalene, obtuse triangle

7) a) $x = 81°$ **b)** $a = 116°$ **c)** $g = 85°$ **d)** $x = 105°$ **e)** $x = 95°$ **f)** $x = 55°, y = 55°, z = 70°$

g) $b = 130°$ **h)** $z = 30°, y = 15°, x = 45°$