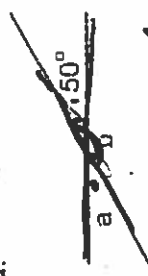
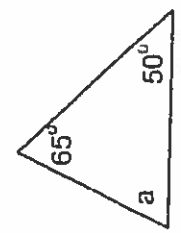
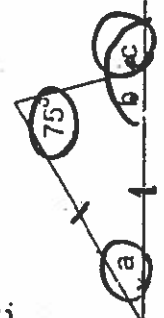
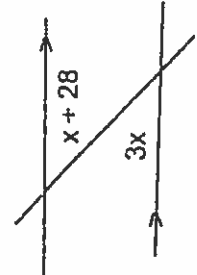


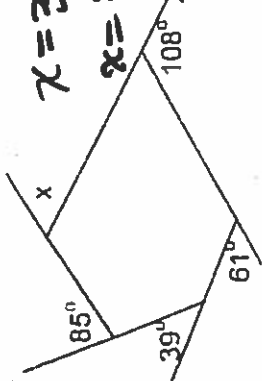
1. For each of the following diagrams, calculate the missing angle(s) and provide reasoning.

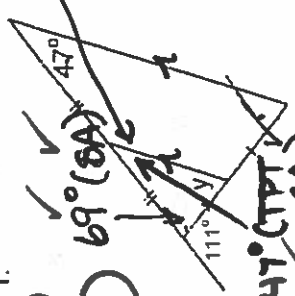
a.  $a = 50^\circ$ (OAT) ✓
 $b = 180^\circ - 50^\circ$ ✓
 $b = 130^\circ$ (SA) ✓
 4 ✓

b.  $a = 180^\circ - (50^\circ + 65^\circ)$ (ASTT) ✓
 $a = 65^\circ$ ✓
 2 ✓

c.  $b = 75^\circ$ (ITT) ✓
 isosceles
 $c = 180^\circ - 75^\circ$ ✓
 $c = 105^\circ$ (SA) ✓
 $a = 30^\circ$ either EAT or ASTT ✓

d.  $3x = x + 28$ (TPT-AA) ✓
 $-x \quad -x$
 $2x = 28$ ✓
 $x = 14^\circ$ ✓

e.  $x = 360^\circ - (85^\circ + 39^\circ + 61^\circ + 108^\circ)$ ✓
 $x = 360^\circ - 293^\circ$ (PEAST) ✓
 $x = 67^\circ$ ✓

f.  midsegment ✓
 $y = 180^\circ - (69^\circ + 47^\circ)$ ✓
 $y = 64^\circ$ (ASTT) ✓

2. Determine the measure of ONE interior angle in a regular 15 sided polygon. Provide reasoning.

Method 1: Find value of each exterior angle ✓
 $\frac{360^\circ}{15}$ (PEAST) ✓
 $= 24^\circ$ ✓
 $180^\circ - 24^\circ$ (SA) ✓
 $= 156^\circ$ ✓

Method 2: $(15-2)(180) = S_{15}$ (ASPT) ✓
 $S_{15} = 2340^\circ$ ✓
 $\frac{2340^\circ}{15}$ each angle ✓
 $= 156^\circ$ ✓

ASTT
 ASOT
 ASPT