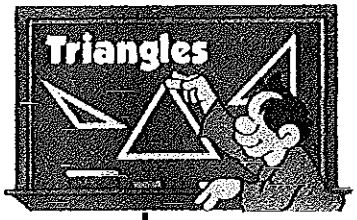


Boot Camp 3
Triangles
Take Home and Check

Tiers B/C

1) Which three lengths CANNOT be the lengths of the sides of a triangle?

A) 23m, 17m, 14m
B) 11m, 11m, 12m
C) 5m, 7m, 8m
D) 21m, 6m, 10m

1)

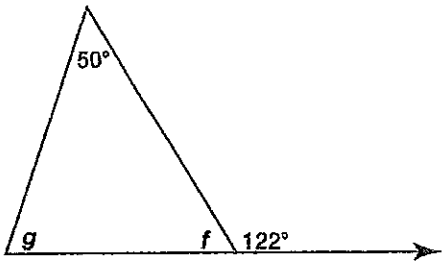
A) $14 + 17 > 23$

B) $11 + 11 > 12$

C) $5 + 7 > 8$

D) $6 + 10 < 21$

2) What is the measure of angles f and g? Show how you get your answer.



2)

Angle F =

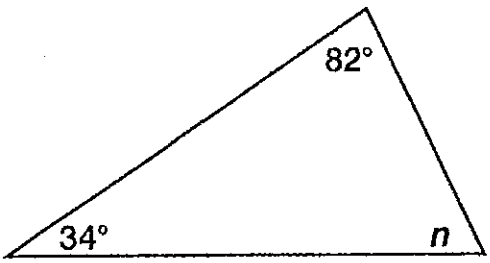
$180 - 122 = 58°$

(f and 122 are supplementary)

$50 + 58 = 108$

$180 - 108 =$ **72°**

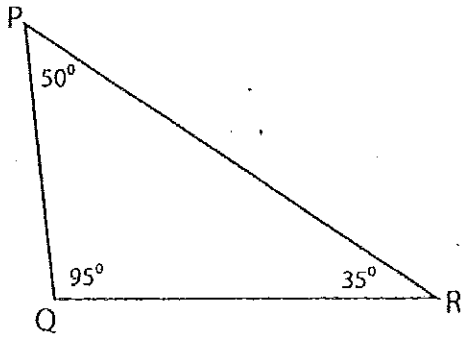
3) What is the measure of angle n? Show how you get your answer?



3) $82 + 34 = 116$

$180 - 116 =$ **64°**

4) Use two letters to name the longest and shortest sides.



Longest side = _____

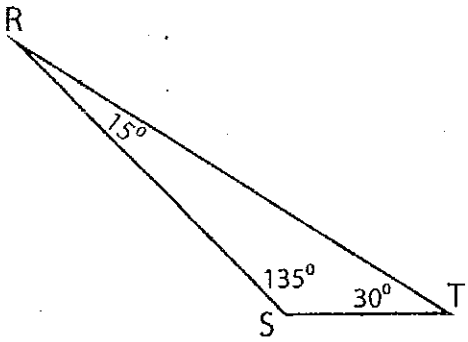
Shortest side = _____

4)

Longest side = $\overline{PR}$ (because it is across from the largest ∠)

Shortest side = $\overline{PQ}$ (because it is across from the smallest ∠)

5) Use two letters to name the longest and shortest sides.



Longest side = _____

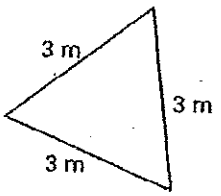
Shortest side = _____

5)

Longest side = $\overline{RT}$

Shortest side = $\overline{ST}$

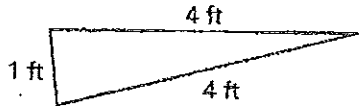
6) Classify the triangle by its sides and angles.



6)

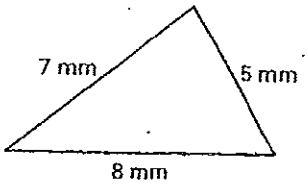
Equilateral
Acute

7) Classify the triangle by its sides and angles.



7) Isosceles
Acute

8) Classify the triangle by its sides and angles.



8) Scalene
Acute

9) Determine if the given information will make a unique triangle. Explain why or why not.

a) Side lengths 3 and 5 and an included angle of 67 degrees.

b) Angles 73°, 7°, 100°

c) Angles 80° *and* 25° and an included side of 12.

9)

a) Unique because the 2 side lengths with an included ∠ determine the 3rd side.

b) Not unique because similar Δ's can be diff sizes

c) Unique because the 2 given ∠'s and included side determine the other sides.

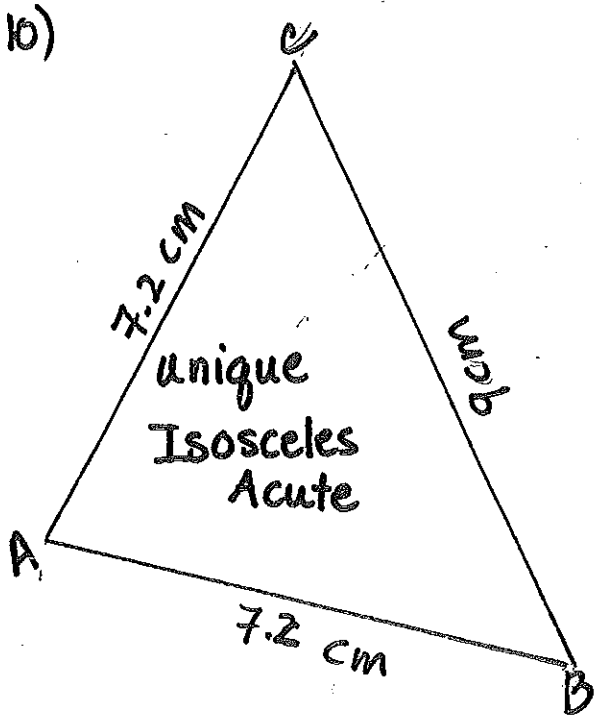
10) Construct a triangle in which

AB = 7.2 cm, AC = 7.2 cm and BC = 9 cm

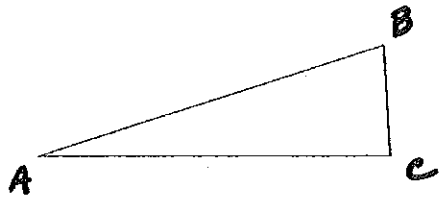
Is this a unique triangle?

What Kind of Δ is this?

10)



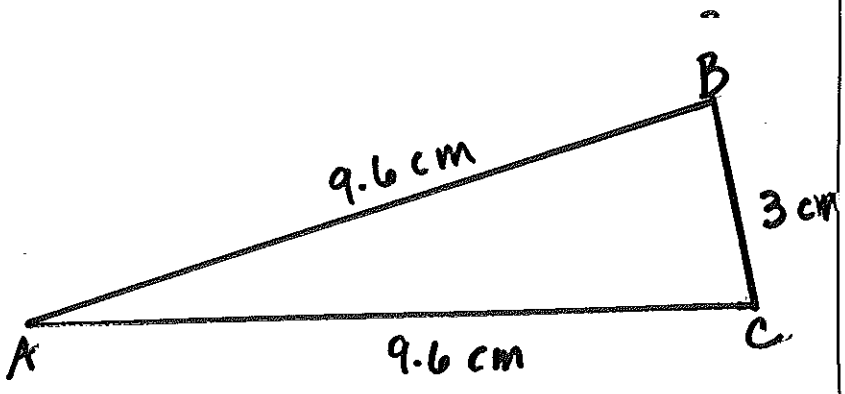
11) Construct a triangle whose sides are twice as long as the triangle below.



$\overline{AB}$ 4.8 x 2 = 9.6 cm

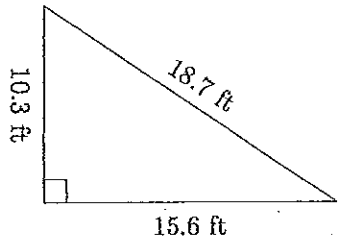
$\overline{BC}$ 1.5 x 2 = 3 cm

$\overline{AC}$ 4.8 x 2 = 9.6 cm

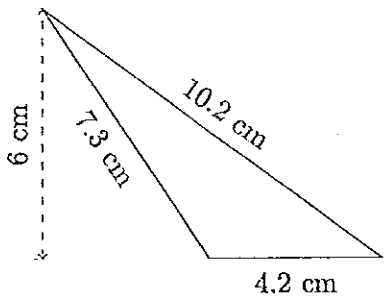


12) Calculate the perimeter and area of these triangles.

a)



b)



a) $P = 10.3 + 18.7 + 15.6 =$ **44.6 ft**

$A = \frac{bh}{2} \quad \frac{(15.6)(10.3)}{2} = \frac{160.68}{2} =$

80.34 ft²

b) $P = 10.2 + 7.3 + 4.2 =$ **21.7 cm**

$A = \frac{bh}{2} = \frac{(4.2)(6)}{2} = \frac{25.2}{2} =$

12.6 cm²