**Use triangle sum theorem and exterior angle theorem to solve for the variables.**

1. 2.

5x + 92

x2 +37

x2 +50

6x+75

10x + 71

4x + 92

**Solve for x, y and z:**

4x+7y

3x+11

5y+22

3. 4.

4y - 21

3x+2y

2x+7

**ON YOUR OWN**

**Solve for x then find the measure of each angle. Classify each triangle by its SIDES.**

1. m∠A = 2x° = \_\_\_\_\_\_\_

m∠B = 2x° = \_\_\_\_\_\_\_

m∠C = 80° =\_\_\_\_\_\_\_\_

x = \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ triangle

2. m∠A = (4x - 20)° = \_\_\_\_\_\_\_

m∠B = (x + 40)° = \_\_\_\_\_\_\_

m∠C = (2x + 20)° =\_\_\_\_\_\_\_\_

x = \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ triangle

3. m∠A = (5x+10)° = \_\_\_\_\_\_\_

m∠B = (10x+40)° = \_\_\_\_\_\_\_

m∠C = (6x+4)° =\_\_\_\_\_\_\_\_

x = \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ triangle

**Solve for x:**

4. 5. 6.

5x+20°

x°

30°

x°

3x+40°

°

2x+15°

**x = \_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_\_**

**Solve for x, y and z:**

y°

x°

52°

z°

7. 8. 9.

y°

y°

60°

120°

x°

z°

x°

z°

**x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_ x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_ x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_**

2x+15

x°

10. 11. 12.

4y+20°

3x+15°

25

4y-7

y°

5z+45°

120°

z°

**x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_ x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_ x = \_\_\_\_\_\_ y= \_\_\_\_\_\_ z= \_\_\_\_\_\_**

**Answers: In your Groups**

1. X = -11 (reject), -3
2. X= -3, -8
3. X =26.5, y =20.25
4. X=17, y =8

**Answers: On your Own**

1. **50, 50 , 80,25 , isosceles triangle**
2. **60, 60, 60, 20, equiangular triangle**
3. **40,100,40 , 6, isosceles triangle**
4. **30**
5. **10**
6. **75**
7. **60, 60, 60**
8. **60, 60, 120**
9. **52, 128,76**
10. **30, 30, 150**
11. **15, 10, 3**
12. **5, 8**