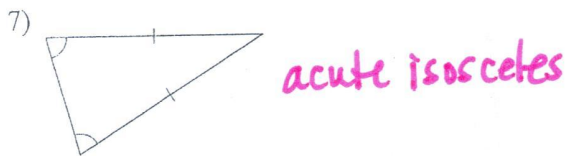
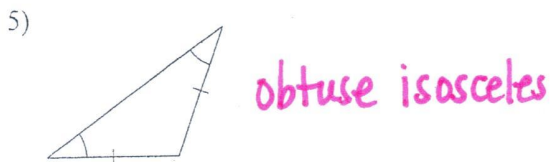
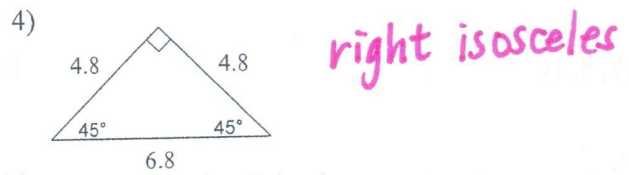
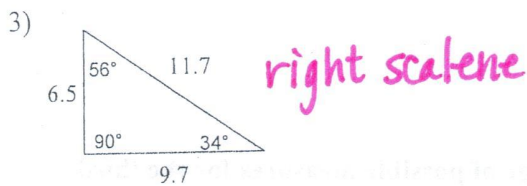
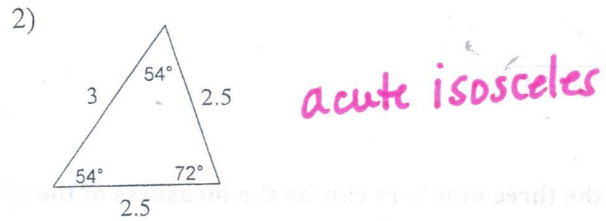
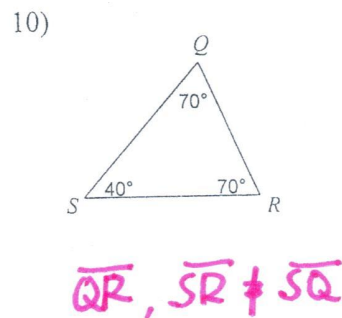
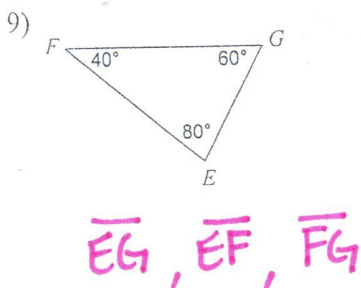


Introduction to Triangles Assignment

Classify each triangle by its angles (acute, right, obtuse) and sides (scalene, isosceles, equilateral).

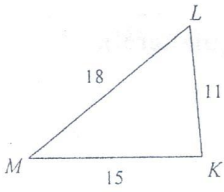


Order the sides of each triangle from shortest to longest.



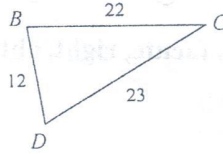
Order the angles in each triangle from smallest to largest.

11)



$\angle M, \angle L, \angle K$

12)



$\angle C, \angle D, \angle B$

State if the three numbers can be the measures of the sides of a triangle.

13) 4, 11, 6

$4 < 11 + 6 \checkmark$ $6 < 11 + 4 \checkmark$

$11 < 4 + 6$ NO
 \therefore Not a triangle

14) 17, 7, 12

$17 < 7 + 12 \checkmark$

$7 < 17 + 12 \checkmark$

$12 < 17 + 7 \checkmark$

\therefore yes!

15) 17, 8, 10

$17 < 8 + 10$

No \therefore Not a triangle

16) 7, 3, 10

$7 < 3 + 10 \checkmark$

$3 < 7 + 10 \checkmark$

$10 < 7 + 3$ No

\therefore Not a triangle

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

17) 8, 7

$1 < c < 15$

18) 11, 10

$1 < c < 21$

19) 7, 12

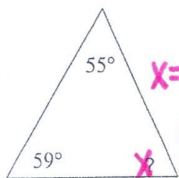
$5 < c < 19$

20) 11, 9

$2 < c < 20$

Find the measure of each angle indicated.

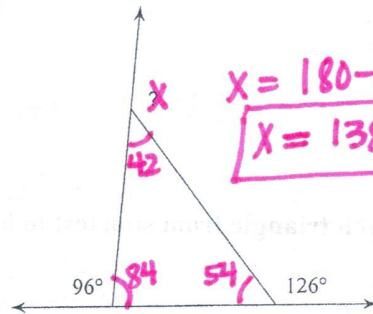
21)



$X = 180 - (55 + 59)$

$X = 66^\circ$

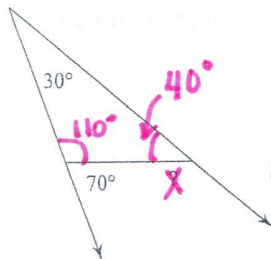
22)



$X = 180 - 42$

$X = 138^\circ$

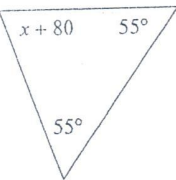
23)

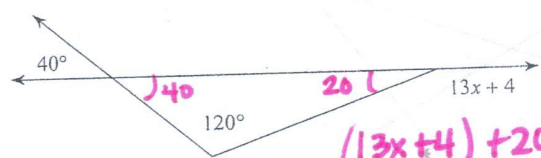


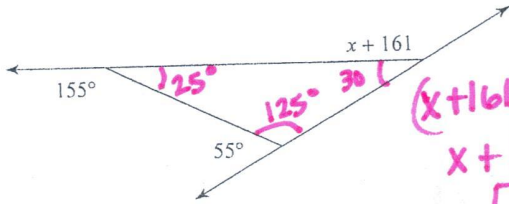
$X = 180 - 40$

$X = 140^\circ$

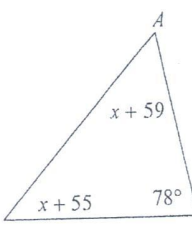
Solve for x.

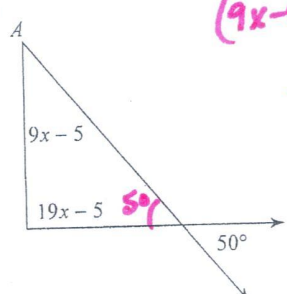
24)  $180 = 2(55) + x + 80$
 $180 = x + 190$
 $x = -10$

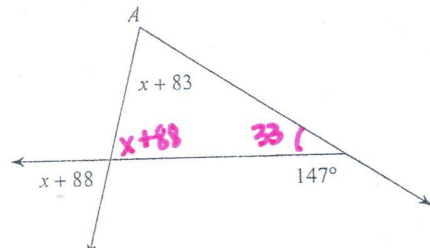
25)  $(13x+4) + 20 = 180$
 $13x + 24 = 180$
 $13x = 156$
 $x = 12$

26)  $(x+161) + 30 = 180$
 $x + 191 = 180$
 $x = -11$

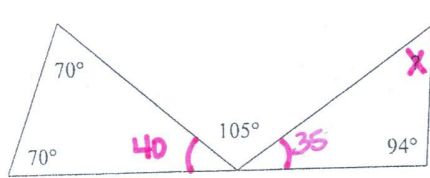
Find the measure of angle A.

27)  $(x+59) + (x+55) + 78 = 180$
 $2x + 192 = 180$
 $2x = -12$
 $x = -6$
 $\angle A = -6 + 59$
 $\angle A = 53^\circ$

28)  $(9x-5) + (19x-5) + 50 = 180$
 $28x + 40 = 180$
 $28x = 140$
 $x = 5$
 $\angle A = 9(5) - 5$
 $\angle A = 40$

29)  $(x+83) + (x+88) + 33 = 180$
 $2x + 204 = 180$
 $2x = -24$
 $x = -12$
 $\angle A = -12 + 83$
 $\angle A = 71$

Find the measure of each angle indicated.

30)  $35 + 94 + x = 180$
 $x + 129 = 180$
 $x = 51^\circ$

31)

$180 - (49 + 97) = 34$
 $X = 180 - 34$
 $X = 146^\circ$

32)

$180 - (100 + 43) = 37$
 $X = 180 - 37$
 $X = 143^\circ$

Find the value of x.

33)

$11 = 2x - 11$
 $22 = 2x$
 $X = 11$

34)

$8 = 2x - 8$
 $16 = 2x$
 $X = 8$

35)

$30 + 2x = 180$
 $2x = 150$
 $X = 75^\circ$

36)

$x + 2(70) = 180$
 $x + 140 = 180$
 $X = 40^\circ$

37)

$180 - 2(71) = 38$
 $x + 38 = 90$
 $X = 52^\circ$

38)

$x + 54 = 90$
 $X = 36^\circ$

39)

$180 - 30 = x$
 $150 = x$

40)

$X = 60$