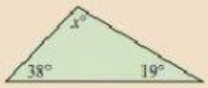
Angles in Triangle

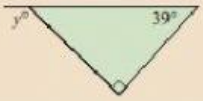
Example

Find the unknown in the following, giving brief reasons:

a



b



a $x + 38 + 19 = 180$ {angle sum of a triangle}

$\therefore \quad x = 180 - 38 - 19$

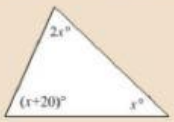
$\therefore \quad x = 123$

b $y = 39 + 90$ {exterior angle of a triangle}

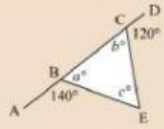
$\therefore \quad y = 129$

Find the values of the unknowns in each triangle, giving a brief reason:

a



b



a $2x + x + (x + 20) = 180$ {angles of a triangle}

$\therefore \quad 4x + 20 = 180$

$\therefore \quad 4x = 160$

$\therefore \quad x = 40$

b $a + 140 = 180$ {angles on a line}

$\therefore \quad a = 180 - 140 = 40$

Likewise $b = 180 - 120 = 60$

But $a + b + c = 180$ {angles of a triangle}

$\therefore \quad 40 + 60 + c = 180$

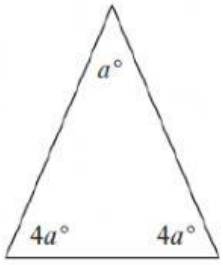
$\therefore \quad 100 + c = 180$

$\therefore \quad c = 80$

Exercise:

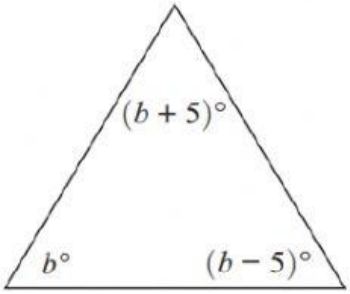
1) Find the values of the unknowns in each triangle, give a brief reasons:

a



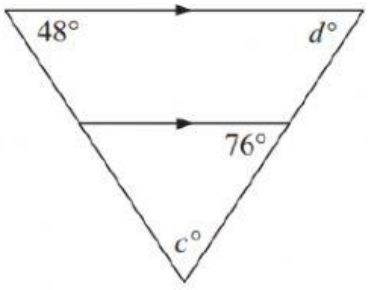
Reason:

b



Reason:

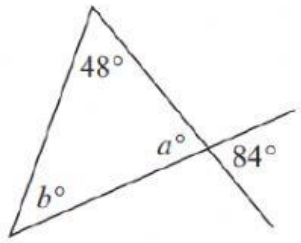
c



Reason:

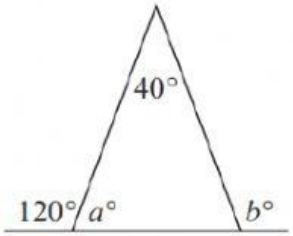
LIVEWORKSHEETS

d



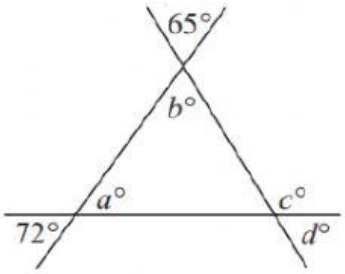
Reason:

e



Reason:

f



Reason:

2) State whether the following statements are true or false:

	T	F
a. The sum of the angles of a triangle is equal to two right angles.	☐	☐
b. A right angled triangle can contain an obtuse angle.	☐	☐
c. The sum of two angle of a triangle is always greater than the third angle.	☐	☐
d. The two smaller angles of a right angled triangle are supplementary.	☐	☐
e. A concave triangle is impossible	☐	☐

LIVEWORKSHEETS