Answers to review worksheet (Wednesday, April 3rd)

1a) $x = 180 - 58 - 85$
$x = 37^o$

b) $x = 180 - 35 - 35$
$x = 110^o$

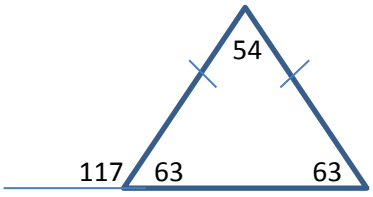
c) $x = 180 - 90 - 48$
$x = 42^o$ * hint: angles with a box in the corner are exactly 90^o

d) $x = 180 - 110 - 24$
$x = 46^o$

2a) $d = 180 - 76$
$d = 104^o$

b) $d = 180 - 115$
$d = 65^o$

c) We know the exterior angle is 117^o. This means the interior angle of the triangle beside it is 63^o. (180-117= 63). The two dashes on the two triangle sides tell us that this triangle is an isosceles triangle. Isosceles triangles have two angles the same, and once we know these two angles we can calculate 'd'. 180-63-63 = d. Therefore 'd' = 54^o.



d) First find the 3rd angle of the triangle. $180 - 19 - 54 = 107^o$.
Next, use this angle to determine 'd'.
$d = 180 - 107 = 73^o$.

3a) 180^o

b) 43^o

c) 90^o

d) 60^o * the 'F Pattern' tells us that a = c, therefore if a = 60, then c = 60

e) 120^o
* there are several ways to answer this.
* steps: 1. $180 - 120 = 60^o$ (b) 2. 'F Pattern' tells us b = d, therefore $d = 60^o$

3. $180 - d = e$
   $180 - 60 = 120^o$

4. Obtuse — 2nd triangle
   Acute — 5th triangle
   Scalene — 4th triangle
   Equilateral — 1st triangle
   Isosceles — 3rd triangle

5a) $c = 180 - 36 - 113$
$c = 31^o$

$b = 180 - 113$
$b = 67^o$

$a = 180 - 38 - 67$
$a = 75^o$

b) $a = 180 - 52 - 70$
$a = 58^o$

$b = 180 - 70 - 47$
$b = 63^o$

$c = 180 - 73 - 82$
$c = 25^o$

c) $b = 180 - 78$
$b = 102^o$

$a = 180 - 78 - 38$
$a = 64^o$

$c = 360 - 109 - 130$
$c = 121^o$ * this is from the rule: 3 exterior angles of a triangle add up to 360^o

6a) the 'C Pattern' tells us that the angle $130^o + m = 180^o$.
Therefore: $m = 180 - 130$
$m = 50^o$

The 'F Pattern' tells us that the angle 130^o is the same as angle 'n'.
Therefore: $n = 130^o$

b) the 'X Pattern' tells us that angle 55^o is the same angle as 'm'.
Therefore: $m = 55^o$

The ‘Z Pattern’ tells us that angle 55^{o} is the same as the angle just above ‘n’.

n = 180 – 55
n = 125^{o}

c) No you cannot answer ‘m’ without measuring it, because the lines are not perfectly parallel
Yes you can answer ‘n’ because the ‘X Pattern’ tells us that the opposite angles of an intersection are equal.
Therefore: n = 143^{o}

d) When you determine the interior angles of the triangle, you will find that the exterior angle is equal to the sum of the opposite 2 interior angles.

Example: 86 + 56 = 142