

## Worksheet 11

1) Insert suitable number in the box which make the arithmetic sequence

- a)  $\boxed{5}, \square, \boxed{11}, \square, \boxed{17}$
- b)  $\boxed{13}, \boxed{9}, \square, \square, \boxed{-3}, \boxed{-7}$
- c)  $\square, \square, \boxed{6}, \boxed{10}, \square, \square$
- d)  $\boxed{7}, \boxed{15}, \square, \square, \boxed{39}, \boxed{47}$

2) Angles of a right triangle are in an arithmetic sequence.

- a) Find the middle term of the sequence
- b) Write the angles of the triangle

3) Angles of a quadrilateral are in an arithmetic sequence

- a) Find the angle sum
- b) What is the sum of first term and fourth term?
- c) What is the sum of second term and third term?
- d) Suggest a suitable name of this quadrilateral

4) Angles of a pentagon are in an arithmetic sequence .

- a) What is the sum of the terms of this sequence
- b) What is the middle term ?
- c) If the smallest angle is  $40^\circ$  what is the difference between two adjacent angles
- d) Write the angles as a sequence

5) There is an arithmetic sequence having 9 terms. The sum of the first and 9<sup>th</sup> terms is 32.

- a) What is the sum of second and eighth term?
- b) what is the fifth term?
- c) If the sixth term is 19 then what is its common difference?
- d) Write the first term of this sequence

### Answers and Explanation

- 1) a) 5, 8, 11, 14, 17
- b) 13, 9, 5, 1, -3, -7
- c) -2, 2, 6, 10, 14, 18
- d) 7, 15, 23, 31, 39, 47

- 2) a)  $x_2 = \frac{180}{3} = 60$   
b)  $30^\circ, 60^\circ, 90^\circ$ .
- 3) a)  $360^\circ$   
b)  $x_1 + x_4 = 180^\circ$   
c)  $x_2 + x_3 = 180^\circ$   
d) Co-interior angle sum is  $180^\circ$ . That is the lines are parallel.
- 4) a)  $(5 - 2) \times 180 = 540^\circ$   
b)  $x_3 = \frac{540}{5} = 108^\circ$   
c)  $108 - 40 = 2d, d = 34^\circ$   
d)  $40^\circ, 74^\circ, 108^\circ, 142^\circ, 176^\circ$
- 5) a)  $x_2 + x_8 = 32$   
b)  $\frac{32}{2} = 16^\circ$   
c)  $d = x_6 - x_5 = 3$   
d)  $x_1 = x_5 - 4d = 16 - 12 = 4$