



Grade 9 - Mathematics

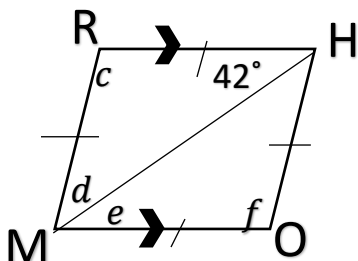
Properties of Geometric Figures 2

Memo



Examine the following shapes and calculate the value of the unknown angles

1.



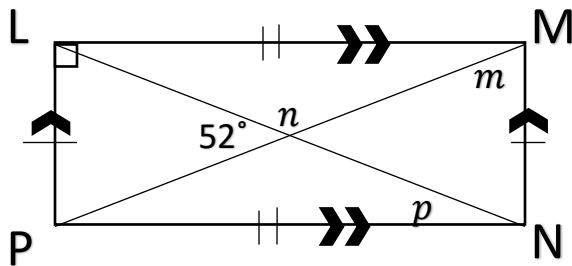
$$d = 42^\circ \text{ (base angles of an isosceles triangle)}$$

$$\begin{aligned} c &= 180^\circ - (42^\circ + 42^\circ) \\ &= 180^\circ - 84^\circ \\ &= 96^\circ \end{aligned}$$

$$f = 96^\circ \text{ (opp angles in a rhombus/parallelogram =)}$$

$$e = 42^\circ \text{ (alt angles; } RH \parallel MO \text{)}$$

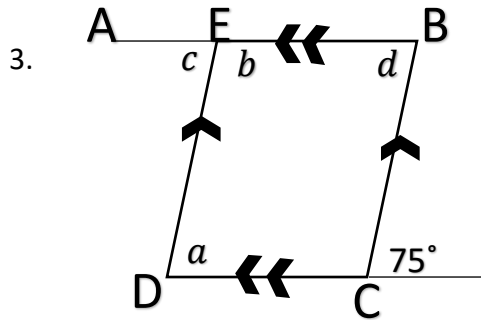
2.



$$\begin{aligned} n &= 180^\circ - 52^\circ \text{ (angles on a straight line = } 180^\circ \text{)} \\ &= 128^\circ \end{aligned}$$

$$\begin{aligned} p &= 52^\circ \div 2 \text{ (diagonals of a rectangle bisect each other; so base angles of isosceles triangle =)} \\ &= 26^\circ \end{aligned}$$

$$\begin{aligned} m &= 128^\circ \div 2 \text{ (diagonals of a rectangle bisect each other; so base angles of isosceles triangle =)} \\ &= 64^\circ \end{aligned}$$



$$a = 75^\circ \text{ (Corresp angles; EF//BC)}$$

$$b = 180^\circ - 75^\circ \text{ (co-int angles; EB//DC)}$$
$$= 105^\circ$$

$$c = 180^\circ - 105^\circ \text{ (angles on a straight line = } 180^\circ)$$
$$= 75^\circ$$

$$d = 75^\circ \text{ (Corresp angles; ED//BC)}$$