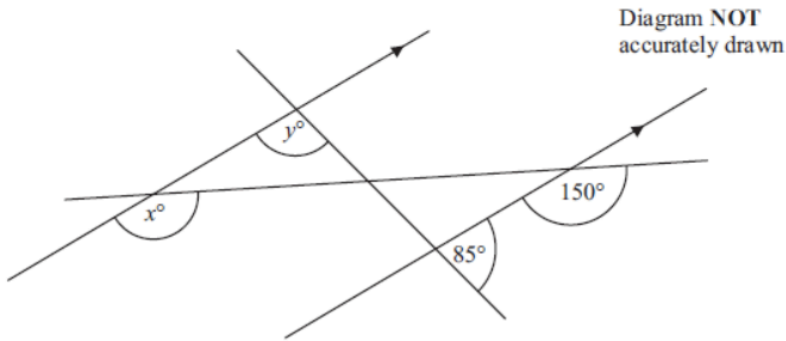
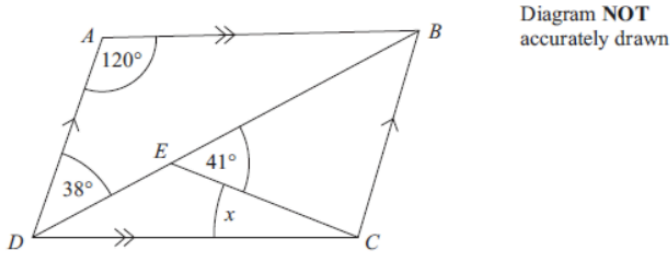


Parallel Lines Cut by a Transversal

1. Solve for x and y . Identify, by name, any special angles and relationships used.



2.



$ABCD$ is a parallelogram.

Angle $ADB = 38^\circ$.

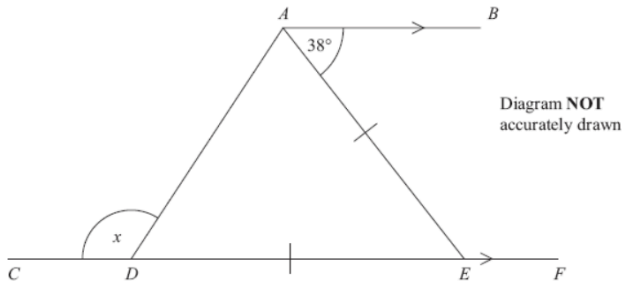
Angle $BEC = 41^\circ$.

Angle $DAB = 120^\circ$.

Calculate the size of angle x .

You must give reasons for your answer.

3.



$CDEF$ is a straight line.

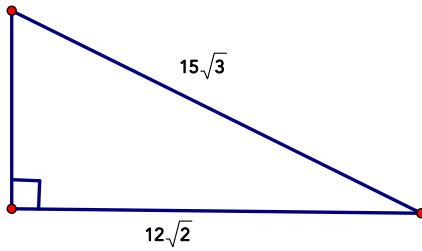
AB is parallel to CF .

$DE = AE$.

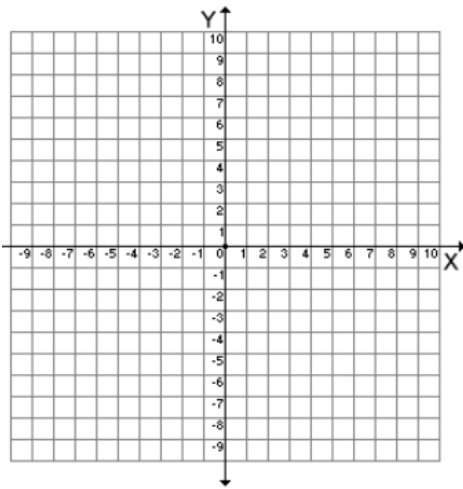
Work out the size of the angle marked x .

You must give reasons for your answer.

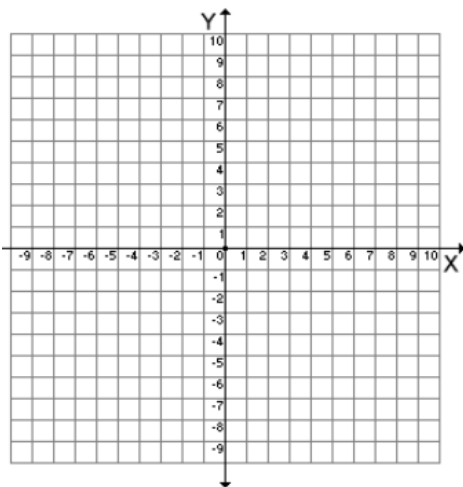
4. Find the length of the missing side. Your answer should be expressed in simplest radical form.



5. Triangle DAN has coordinates D (2, 10), A (6, 4) and N(12,8). Using coordinate geometry, prove that decide the most descriptive name for the triangle.



6. Prove that a quadrilateral with vertices J(2,-1), K(-1,-4), L(-4,-1) and M(-1, 2) is a square.



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Name: _____

7. A triangle has vertices C (3, 5) A(-2,1) and T(4, -3).

a.) Determine the midpoint of CA.

b.) Determine the equation of the median for $\triangle CAT$ from point T.

c.) Find the equation of the line that is parallel to CT containing point A.

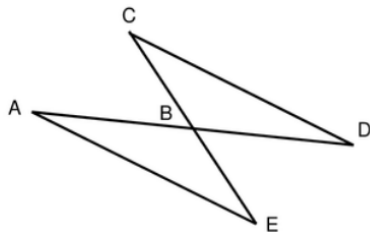
d.) Find the equation of the perpendicular bisector of AT.

8. Find the coordinates of the point that is $\frac{1}{3}$ of the way from (-8, 4) and (4, 12).

9.

Given: $\overline{AE} \parallel \overline{CD}$
 $\overline{AB} \cong \overline{BD}$ Prove: $\triangle ABE \cong \triangle DBC$

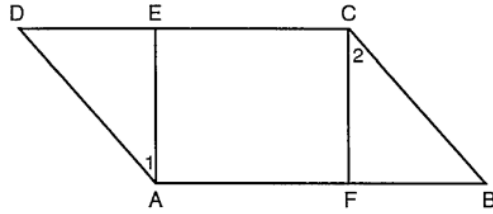
Write a flow proof or a 2-column proof.



10.

Given: $\square ABCD$
 $\overline{DE} \cong \overline{FB}$

Prove: a) $\triangle DEA \cong \triangle BFC$
 b) $\angle 1 \cong \angle 2$

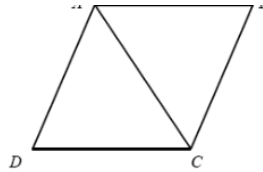


11.

Given: $\square ABCD$

Prove: $\triangle DAC \cong \triangle BCA$

(At most 6 steps! You may not need all 6!!!)



12. Use your knowledge of parallelograms to help with this one!

Given: $WOSB$ is a parallelogram

$\angle 3 \cong \angle 4$
 $\overline{MW} \cong \overline{SN}$

Prove: $\overline{IM} \cong \overline{LN}$

