ANGLES WITHIN PARALLEL LINES 05

[ESTIMATED TIME: 25 minutes]

GCSE

(+ IGCSE) EXAM QUESTION PRACTICE

1. **[4 marks]**

ABC is an isosceles triangle.
BA = *BC*.
PA is parallel to *BC*.
Angle *ACB* = 70°.

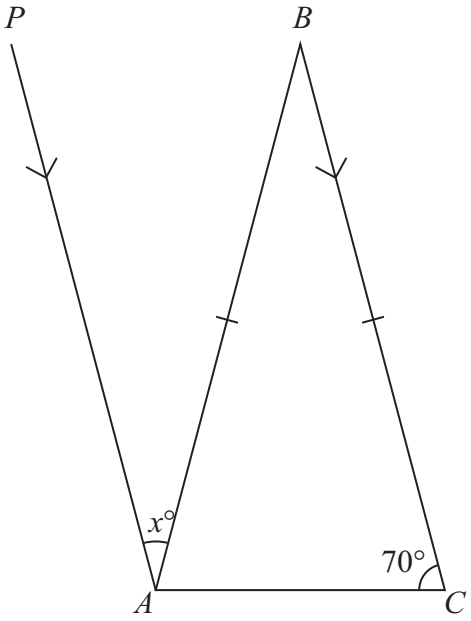

Diagram **NOT** accurately drawn

Find the value of *x*.
Give a reason for each step in your working.

x = ...

2. **[4 marks]**

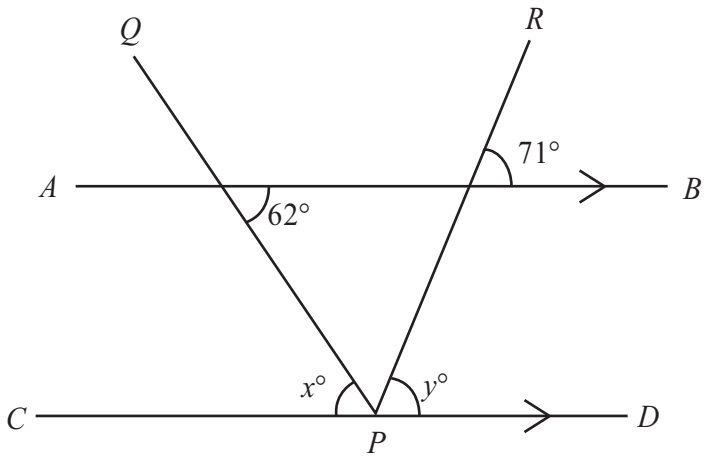

Diagram **NOT** accurately drawn

AB and *CPD* are parallel straight lines.
PQ and *PR* are straight lines.

(a) (i) Find the value of *x*.

x = ...

(ii) Give a reason for your answer.

.....

(2)

(b) (i) Find the value of *y*.

y = ...

(ii) Give a reason for your answer.

.....

(2)

3. **[5 marks]**

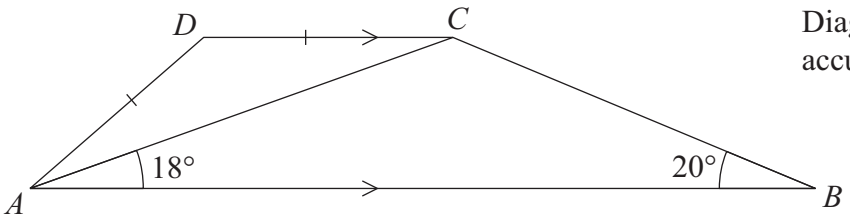

Diagram **NOT** accurately drawn

ABCD is a trapezium.
AB is parallel to *DC*.
Angle *BAC* = 18°.
Angle *ABC* = 20°.
AD = *DC*.

Calculate the size of angle *ADC*.
Give a reason for each step in your working.

°

.....

4. **[4 marks]**

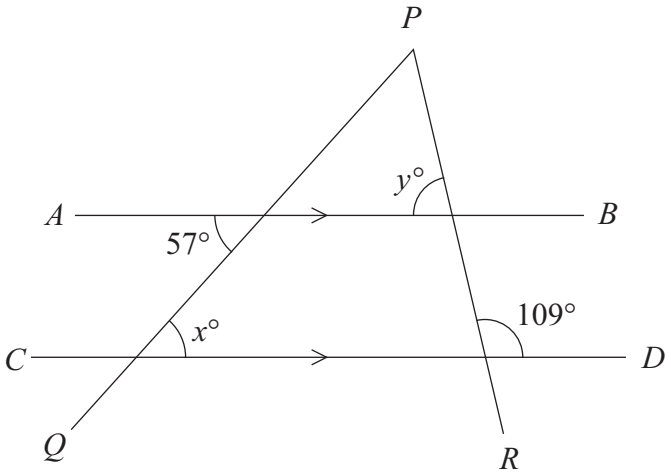

Diagram **NOT** accurately drawn

AB and *CD* are parallel straight lines.
PQ and *PR* are straight lines.

(a) (i) Find the value of *x*.

x = ...

(ii) Give a reason for your answer.

.....

(2)

(b) Find the value of *y*.
Give a reason for each step in your working.

y = ...

(2)

5. **[4 marks]**

In the diagram, *ABC* and *ADE* are straight lines.
CE and *BD* are parallel.
AB = *AD*.
Angle *BAD* = 38°.

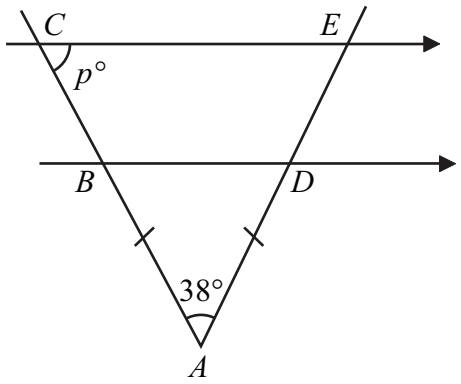

Diagram **NOT** accurately drawn

Work out the value of *p*.

Give a reason for each step in your working.

6. **[5 marks]**

In the diagram, *PQR* and *PST* are straight lines.
QS and *RT* are parallel lines.
Angle *QRT* = 70°.
Angle *QST* = 120°.

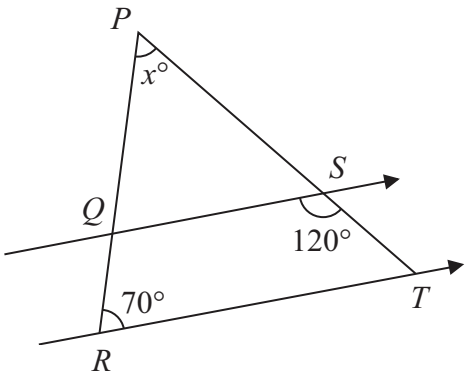

Diagram **NOT** accurately drawn

(a) Work out the value of *x*.

x = ...
(3)

(b) Give a reason for each step in your working.

.....

.....

.....
(2)

7. **[3 marks]**

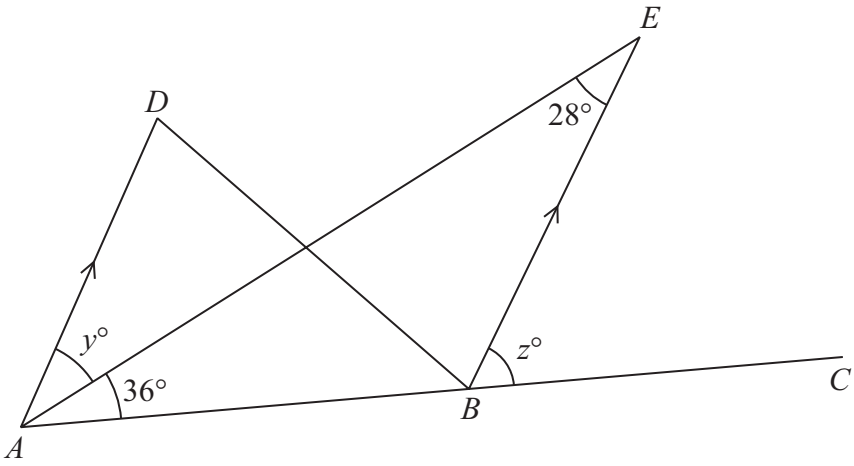

Diagram **NOT** accurately drawn

ADB and *AEB* are triangles.
ABC is a straight line.
AD is parallel to *BE*.

(a) Find the value of *y*.

y = ...

(1)

(b) Find the value of *z*.

z = ...

(2)

8. **[3 marks]**

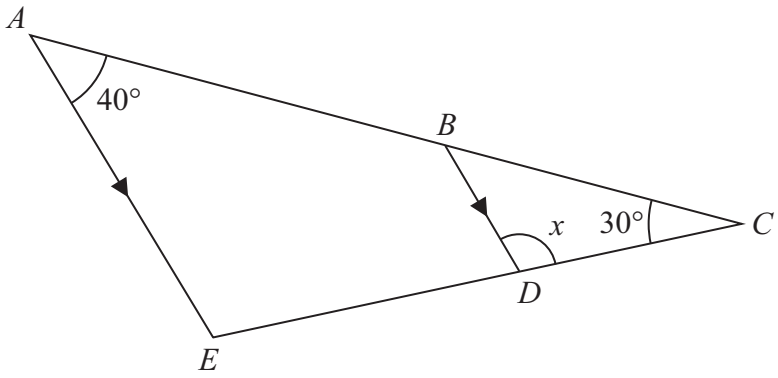

Diagram **NOT** accurately drawn

ABC and *EDC* are straight lines.
AE is parallel to *BD*.
Angle *EAC* = 40°
Angle *ACE* = 30°

Work out the size of angle *x*.
Give reasons for your answer.

x = ... °