Name:

Exam Style Questions

Angles: Parallel Lines

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

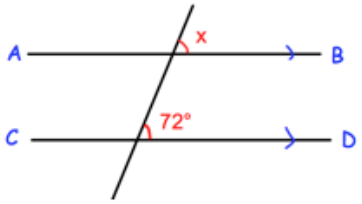
1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 25

1. In the diagram, AB is parallel to CD.



(a) Work out the size of the angle marked x.

72 .....°

(b) Give a reason for your answer.

Corresponding angles .....

.....

(2)

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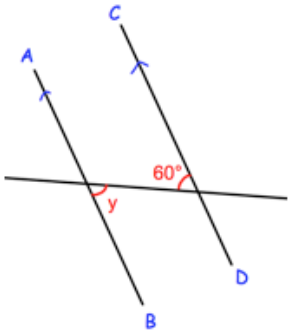
2. AB is parallel to CD.



(a) Work out the size of the angle marked y.

60 .....°

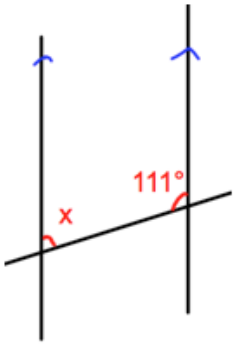
(b) Give a reason for your answer.

Alternate angles .....

.....

(2)

3.



180 - 111 = 69

(a) Work out the size of the angle marked x.

69 .....°

(b) Give a reason for your answer.

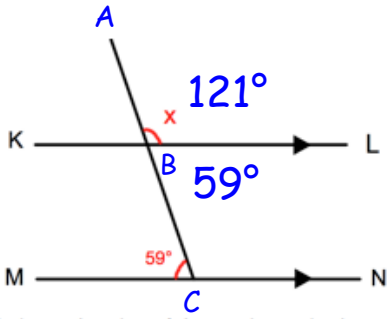
Co-interior angles

.....

.....

(2)

4.



(a) Work out the size of the angle marked x.

121 .....°

(b) Give reasons for your answer.

∠MCB = ∠CBL as they are alternate angles

∠ABL and ∠CBL are in a straight line so the angles have a sum of 180°

(3)

(Could use corresponding angles ∠MCB = ∠KBA)

5. In the diagram AB is parallel to CD.

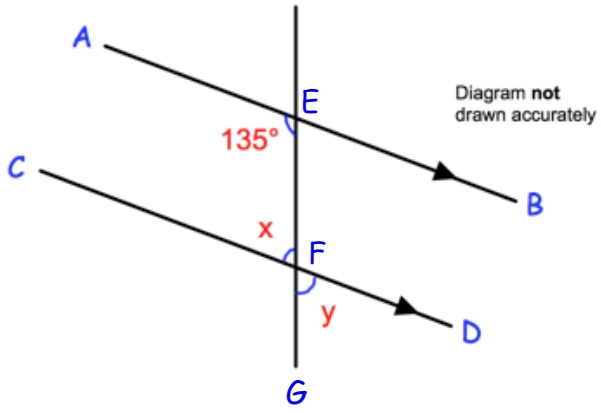


Diagram **not** drawn accurately

(a) Work out the size of the angle marked **x**.

45 .....°

Give a reason for your answer.

Co-interior angles (∠AEF and ∠CFE add to 180°)

.....

.....

(2)

(b) Write down the value of y.

45 .....°

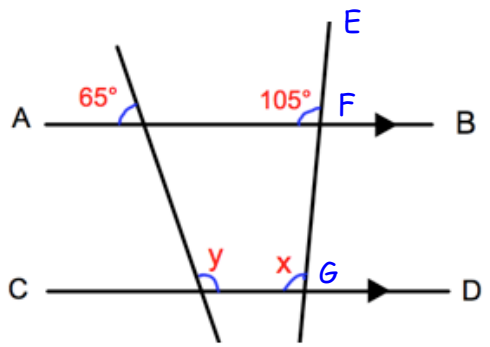
Give a reason for your answer.

∠CFE and ∠DFG are vertically

opposite angles, so are equal.

(2)

6.



AB is parallel to CD.

(a) Work out the size of the angle marked x.

105 .....°

Give a reason for your answer.

Corresponding angles

∠AFE = ∠CGF

(2)

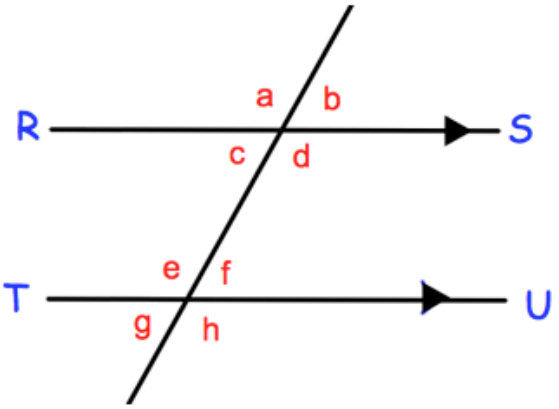
(b) Work out the size of the angle marked y.

180 - 65 = 115

115 .....°

(2)

7. On the diagram RS is parallel to TU.



(a) Which angle is vertically opposite to angle *g* ?

f

.....

(1)

(b) Which angle is corresponding to angle *a* ?

e

.....

(1)

(c) Which angle is alternate to angle *c* ?

f

.....

(1)

(d) Which angle is corresponding to angle *h* ?

d

.....

(1)

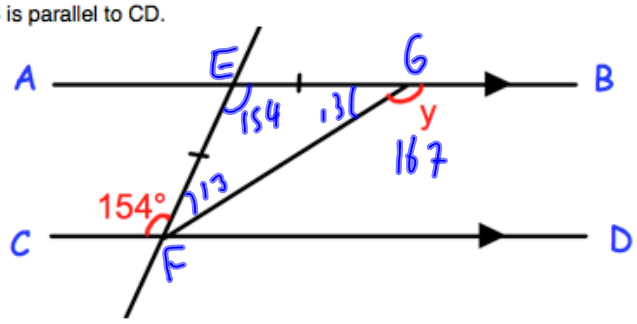
(e) Which angle is alternate to angle *d* ?

e

.....

(1)

8. AB is parallel to CD.



180
-154
26

180
-13
167

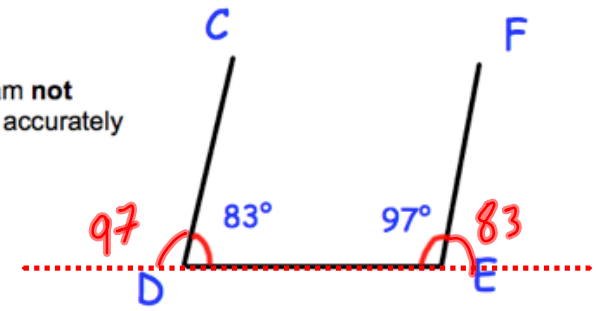
Work out the size of angle y.
Give reasons for your answer.

Angle CFE = Angle FEG as they are alternate angles. As triangle EFG is isosceles, angles EFG and EGF are equal. Since 180° - 154° = 26°, that means both EFG and EGF are 13°. Finally since angles EGF and BGF are in a straight line, that means they add to 180°. So BGF must be 167°

167 .....°

(4)

9.



Nigel says "the lines CD and EF are parallel."
Tim says "the lines CD and EF are **not** parallel."

Who is correct?

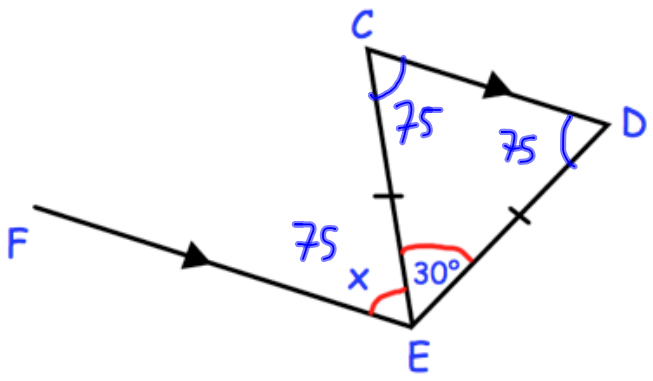
Nigel.

Give a reason for your answer.

Both lines CD and EF make the same angles (corresponding) to the horizontal line, therefore will be parallel.

(2)

10.



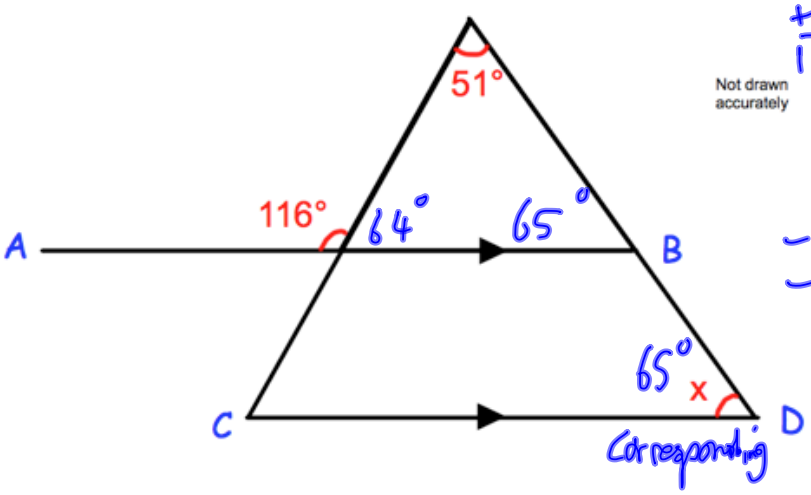
Triangle CDE is isosceles.
CD is parallel to FE.
Angle CED = 30°

Work out the size of angle x.

75 .....°

(3)

11. In the diagram, AB is parallel to CD.



Not drawn accurately

51
+64
115

180
−115
65

Work out the size of angle x.

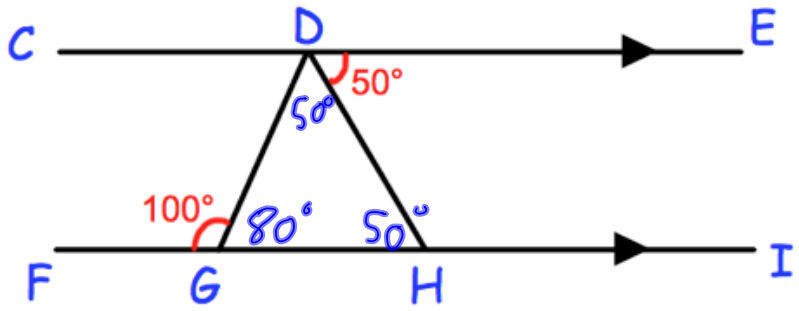
You **must** show your workings.

65

..... °

(4)

12. CE and FI are parallel lines.
Angle EDH = 50°
Angle DGF = 100°



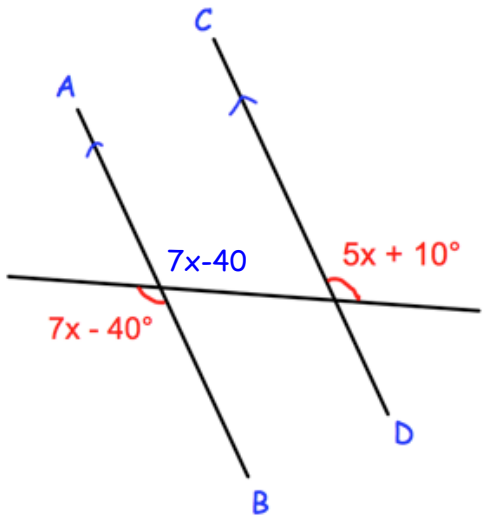
Show, giving reasons, that triangle DGH is isosceles.

Angle DGH is 80° (straight line with angle FGD)
Angle DHG is 50° (alternate with angle HDE)
Angle GDH is 50° (as angles in a triangle add up to 180°)

Therefore triangle DGH is isosceles

(4)

13. AB and CD are parallel lines.



Work out the size of x.

$7x - 40 = 5x + 10$

$2x - 40 = 10$

$2x = 50$

$x = 25°$

.....

(3)