



# Similar Triangles



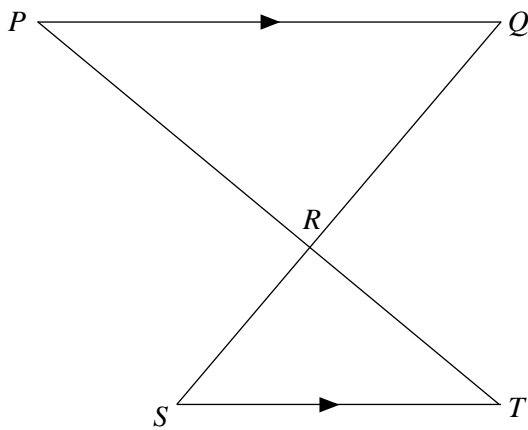
SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

SCAN ME

- 1  $PQR$  and  $RST$  are similar triangles.  
 $PQ$  is parallel to  $ST$ .



$PQ = 9$  cm     $RQ = 6$  cm     $RT = 5$  cm     $ST = 6$  cm

- (a) Work out the length of  $PR$ .

..... cm

(2)

- (b) Work out the length of  $RS$ .

..... cm

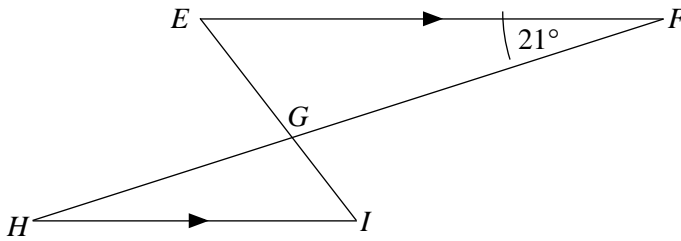
(2)

(Total for Question 1 is 4 marks)



Please note that this is technically a foundation topic but many of the questions in this booklet are aimed at higher students and typically appear in higher papers more often than foundation. If you're looking for a grade 6+ I'd put some effort into this but if you're aiming for a 4/5 some of the later questions might be tough. You may prefer to spend time trying other topics instead.

2  $EFG$  and  $GHI$  are similar triangles.  
 $EF$  is parallel to  $HI$ .



$EG = 8.1 \text{ cm}$     $GF = 18 \text{ cm}$     $GH = 10 \text{ cm}$     $HI = 12 \text{ cm}$   
 Angle  $EFG = 21^\circ$

(a) Work out the size of angle  $GHI$ .

.....  
 (1)

(b) Work out the length of  $EF$ .

.....cm  
 (2)

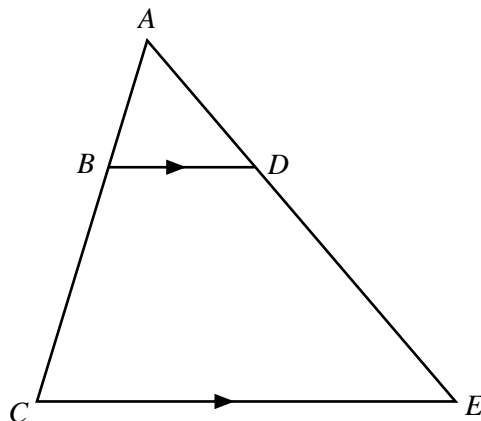
(c) Work out the length of  $GI$ .

.....cm  
 (2)

(Total for Question 2 is 5 marks)



3  $ABC$  and  $ADE$  are straight lines.  
 $BD$  is parallel to  $CE$ .



$AB = 4$  cm     $AD = 5$  cm     $DE = 15$  cm     $BD = 3.5$  cm

(a) Work out the length of  $CE$ .

..... cm  
 (2)

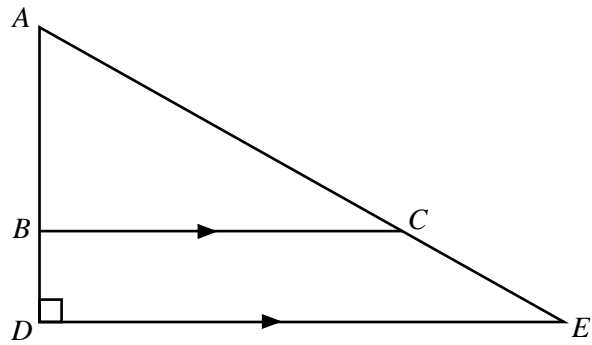
(b) Work out the length of  $BC$ .

..... cm  
 (2)

(Total for Question 3 is 4 marks)



- 4  $ADE$  is a right-angled triangle.  
 $BC$  is parallel to  $DE$ .



$AB = 6$  cm     $AC = 10$  cm     $BC = 8$  cm     $BD = 1.5$  cm

- (a) Work out the length of  $DE$ .

..... cm

(2)

- (b) Work out the length of  $CE$ .

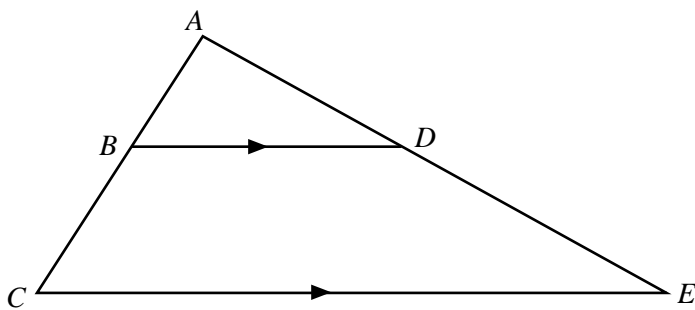
..... cm

(2)

(Total for Question 4 is 4 marks)



5  $ABC$  and  $ADE$  are straight lines.  
 $BD$  is parallel to  $CE$ .



$AB = 6$  cm     $BD = 12$  cm     $CE = 28$  cm     $DE = 10$  cm

(a) Work out the length of  $BC$ .

..... cm  
 (3)

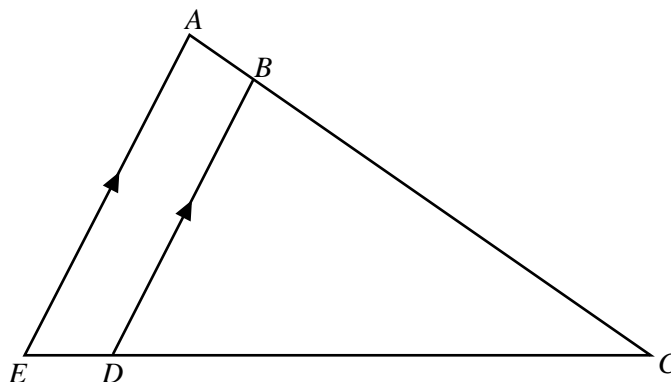
(b) Work out the length of  $AD$ .

..... cm  
 (3)

(Total for Question 5 is 6 marks)



6  $ABC$  and  $EDC$  are straight lines.  
 $AE$  is parallel to  $BD$ .



$BC = 15 \text{ cm}$      $BD = 9 \text{ cm}$      $AE = 10.5 \text{ cm}$      $EC = 21 \text{ cm}$

(a) Work out the length of  $AB$ .

..... cm

(2)

(b) Work out the length of  $ED$ .

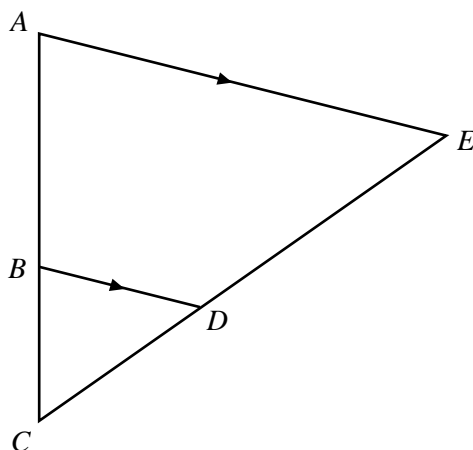
..... cm

(3)

(Total for Question 6 is 5 marks)



7  $ABC$  and  $CDE$  are straight lines.  
 $AE$  is parallel to  $BD$ .



$BC = 2.8 \text{ cm}$      $DE = 6.4 \text{ cm}$

$BD : AE = 1 : 3$

(a) Work out the length of  $AB$ .

..... cm  
 (2)

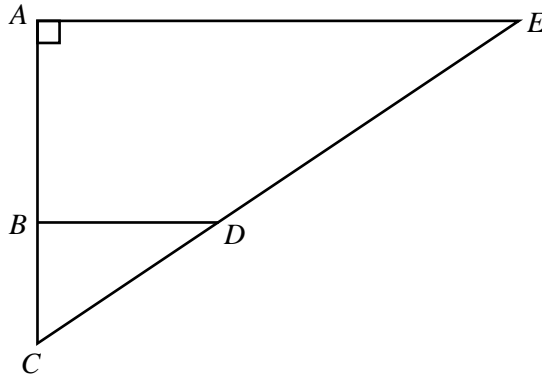
(b) Work out the length of  $CD$ .

..... cm  
 (3)

(Total for Question 7 is 5 marks)



8  $ACE$  is a right-angled triangle.  
 $AE$  is parallel to  $BD$ .



$AE = 40 \text{ cm}$      $CD = 18 \text{ cm}$

$AB : BC = 7 : 3$

(a) Work out the length of  $BD$ .

..... cm

(3)

(b) Work out the length of  $DE$ .

..... cm

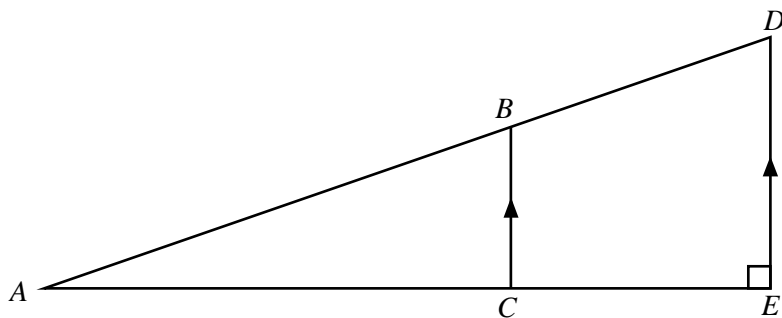
(3)

(Total for Question 8 is 6 marks)





- 9  $ADE$  is a right-angled triangle.  
 $BC$  is parallel to  $DE$ .



$BC = 10 \text{ cm}$      $DE = 15 \text{ cm}$      $CE = 12 \text{ cm}$

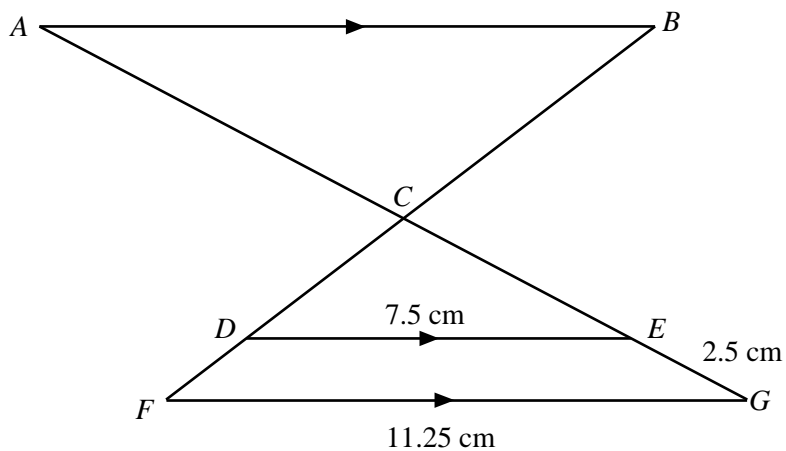
Work out the length of  $AB$ .

..... cm

(Total for Question 9 is 5 marks)



**10**  $ACEG$  and  $BCDF$  are straight lines.  
 $AB$ ,  $DE$  and  $FG$  are parallel lines.



$AC = 8 \text{ cm}$      $BC = 6.4 \text{ cm}$      $DE = 7.5 \text{ cm}$      $FG = 11.25 \text{ cm}$      $EG = 2.5 \text{ cm}$

Work out the length of  $DF$ .

..... cm

(Total for Question 10 is 5 marks)

