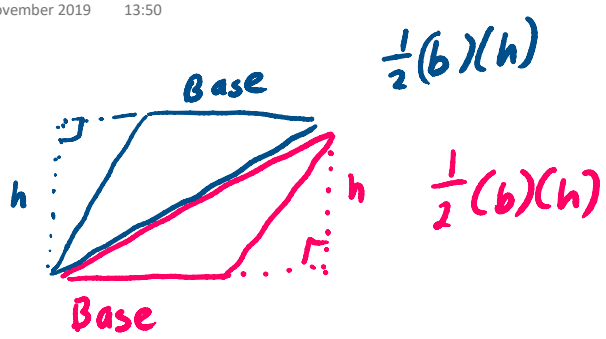
Parallelograms

18 November 2019 13:50



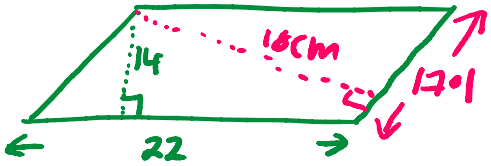
$\frac{1}{2}(b)(h)$

$\frac{1}{2}(b)(h)$

Formula = Base x height.

You must use the base that the perpendicular height sits on

Eg



Base x ⊥ h
22 x 14 = 308

Base x ⊥
17.1 x 18 = 307.8 ⇒ 308.

T&T2 6.2 Area of a...

T&T2 6.2 Area of a...

Perimeter – Area – Volume

chapter 6

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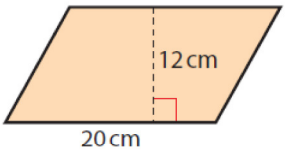
Section 6.2 Area of a parallelogram

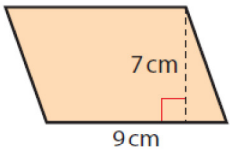
Exercise 6.2

1. Find the area of each of these parallelograms:

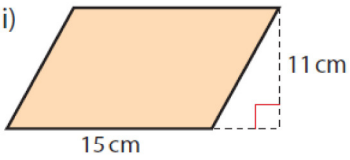
(i)



(ii)

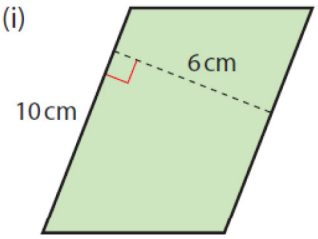


(iii)

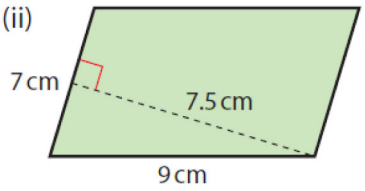


2. Work out the area of each of these parallelograms:

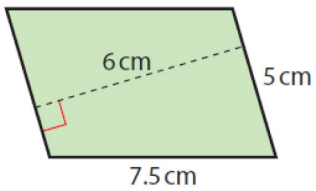
(i)



(ii)

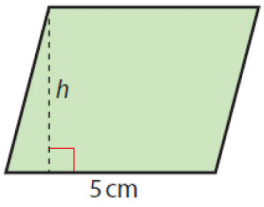


(iii)



3. Write down the value of *h* in each of these parallelograms:

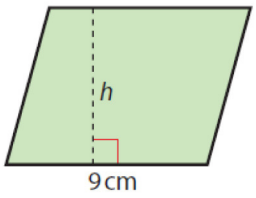
(i)



Area = 30 cm²

Base x h
5 x h = 30
5h = 30
÷5 | h = 6 | ÷5

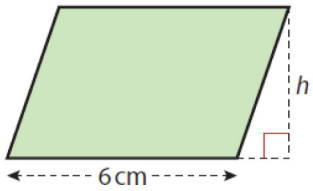
(ii)



Area = 63 cm²

Base x h
9 x h = 63
9h = 63
÷9 | h = 7 | ÷9

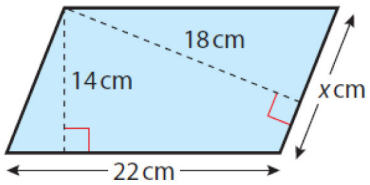
(iii)



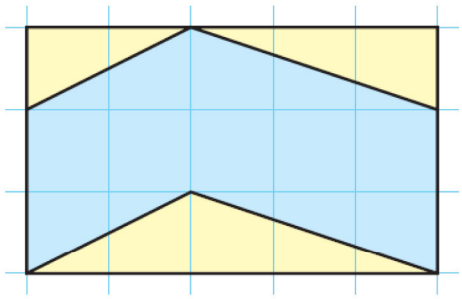
Area = 27 cm²

Base x h
6 x h = 27
6h = 27
÷6 | 1h = 4.5 | ÷6

4. Find the area of the parallelogram shown.
Now find the value of x.

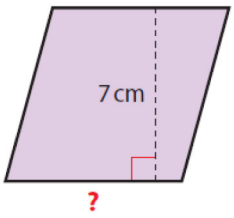


5. This design has been drawn on centimetre squared paper.
Calculate:
(i) the total blue area
(ii) the total yellow area
(iii) the ratio of the blue area to the yellow area



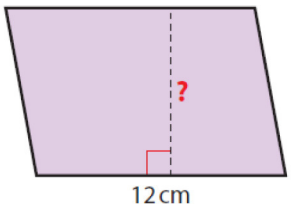
6. Calculate the missing length in each parallelogram:

(i)



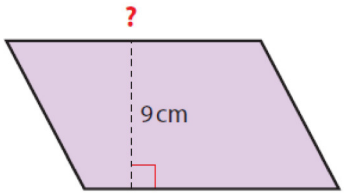
Area = 35 cm²

(ii)



Area = 78 cm²

(iii)



Area = 108 cm²

Base x 7 = 35

?

(x)(7) = 35

7x = 35

÷7 | x = 5 | ÷7

Base x h = 78

12 x h = 78

12h = 78

÷12 | h = 6.5 | ÷12

Base x 9 = 108

?

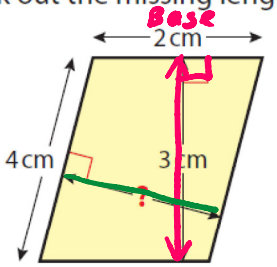
(x)(9) = 108

9x = 108

÷9 | x = 12 | ÷9

7. Work out the missing length in each parallelogram:

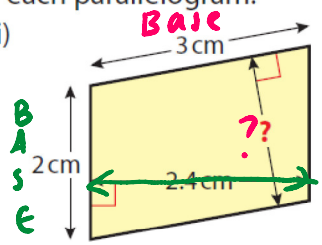
(i)



Area 2x3 = 6cm²

$\frac{6}{4}$ = 1.5cm

(ii)

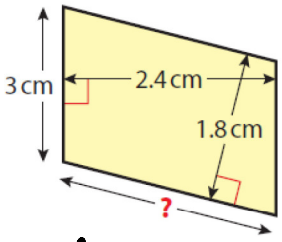


Area = 2x2.4

= 4.8cm²

$\frac{4.8}{3}$ = 1.6cm

(iii)

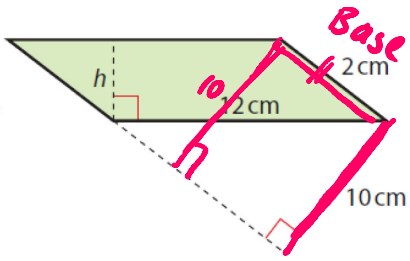


Area = 3x2.4

= 7.2

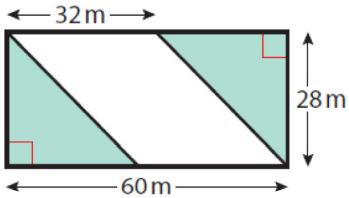
$\frac{7.2}{1.8}$ = 4cm

8. Work out the area of the given shaded parallelogram.
Hence find the measure of the perpendicular height, *h*.

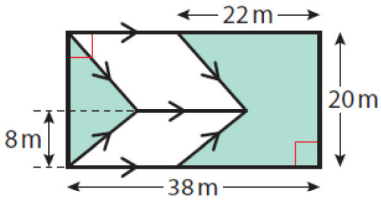


9. Find the areas of the shaded parts of these figures:

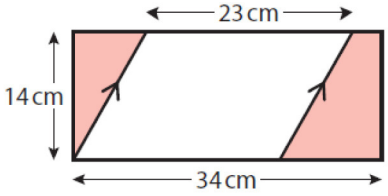
(i)



(ii)



10. Work out the shaded area of the given rectangle where arrows indicate parallel lines.



Answers

Exercise 6.2

1. (i) 240 cm^2 (ii) 63 cm^2 (iii) 165 cm^2
2. (i) 60 cm^2 (ii) 52.5 cm^2 (iii) 30 cm^2
3. (i) 6 cm (ii) 7 cm (iii) 4.5 cm
4. 308 cm^2; $x = 17\frac{1}{9}$ cm
5. (i) 10 cm^2 (ii) 5 cm^2 (iii) 2 : 1
6. (i) 5 cm (ii) 6.5 cm (iii) 12 cm
7. (i) 1.5 cm (ii) 1.6 cm (iii) 4 cm
8. 20 cm^2; $1\frac{2}{3}$ cm
9. (i) 784 m^2 (ii) 440 m^2
10. 154 cm^2