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Chapter 11 Area of Polygons

We will not be following the book much at all in this unit...

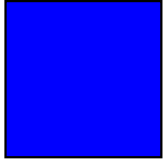
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Area of Squares Rectangles, and Parallelograms

- The amount of surface covered by a figure is its **AREA**
- Area is measured in square units.
 - in^2 (inches squared)
 - ft^2 (square feet)
 - Other units of measurement u^2

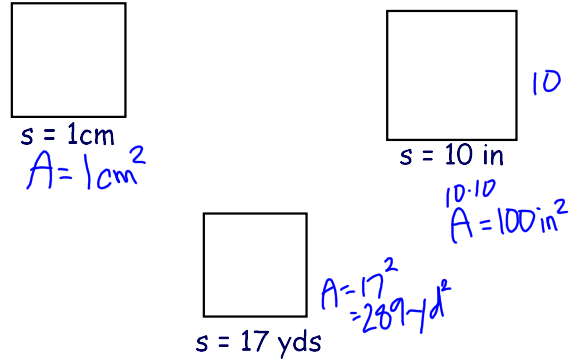
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- Area of a Square =
 - $(\text{side})^2$
 - $A = s^2$



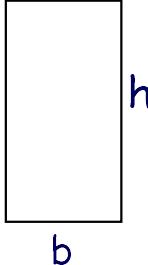
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Find the area of the figure



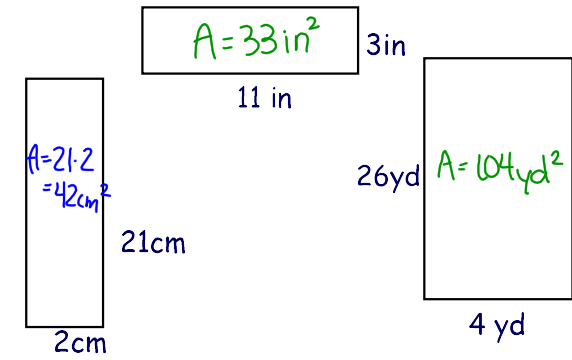
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- Area of a Rectangle = base x height
- $A = bh$



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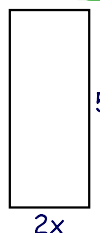
FIND THE AREA OF THE FIGURE



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Find the value of x: (algebra :))

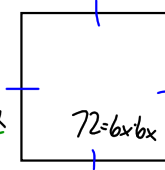
Total area is 120in^2



$5x$
 $2x$

$A = bh$
 $120 = 2x \cdot 5x$
 $120 = 10x^2$
 $\frac{120}{10} = \frac{10x^2}{10}$
 $12 = x^2$
 $\sqrt{12} = x$
or 3.46in

Total area is 72ft^2

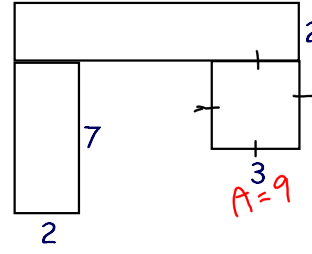


$6x$
 $6x$

$72 = 6x \cdot 6x$
 $A = s^2$
 $72 = (6x)^2$
 $72 = 36x^2$
 $\frac{72}{36} = \frac{36x^2}{36}$
 $2 = x^2$
 $x = \sqrt{2}$ or $1.4...$

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COMPLEX POLYGON

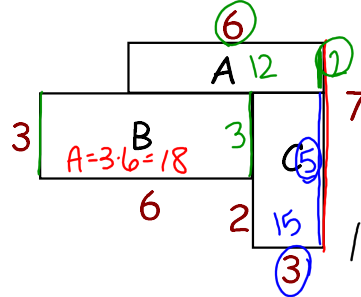


12
 7
 2
 2
 3

$A = 24$
 $A = 14$
 $A = 9$

$24 + 14 + 9 = 47\text{u}^2$

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6
 12
 3
 6
 2
 7


$A = 12$
 $A = 3 \cdot 6 = 18$
 $18 + 12 + 15 = 45\text{u}^2$

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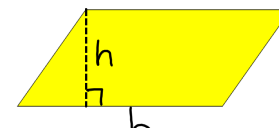
Areas of Parallelograms

Either pair of parallel sides of parallelograms are called bases

The shortest distance between the bases is called the height. It is always perpendicular to the base. It can be inside or outside the parallelogram

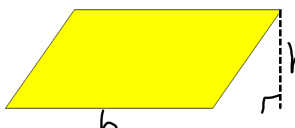


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h
 b


$A = b \cdot h$



h
 b

Jan 28-10:23 AM

Area of a Parallelogram = bh

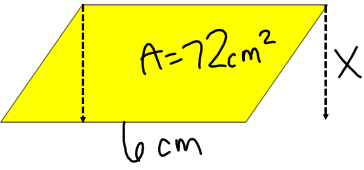


height = 9
base = 14

$A = 126\text{ft}^2$

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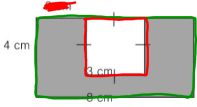
Find the height if area = 72 and the base is 6



$A = b \cdot h$
 $72 = 6 \cdot x$
 $\frac{72}{6} = \frac{6 \cdot x}{6}$
 $12 \text{ cm} = x$

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Using area to find the area of the shaded region.
 EXAMPLES: Find the area of the shaded region.



Area of nonshaded = 9 cm^2
 Area of total Shape = 32 cm^2
 Area of Shaded = $32 - 9 = 23 \text{ cm}^2$

Apr 19-12:33 PM

Geo CH 11 D1 Area of Squares, Rectangles, and Parallelograms.pdf

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