

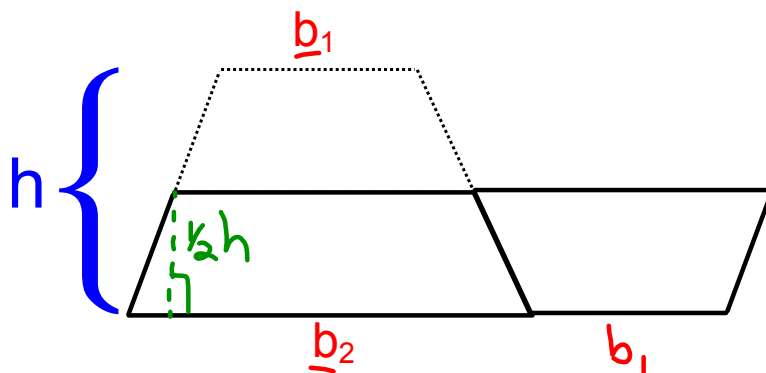
Geometry

Chapter 10

Section 10-2

May 13-10:02 PM

Area of a Trapezoid: Using the midsegment



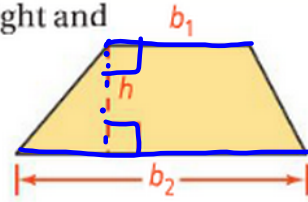
$$A = (b_1 + b_2) \left(\frac{1}{2} h \right)$$

Mar 3-10:13 PM

Theorem 10-4

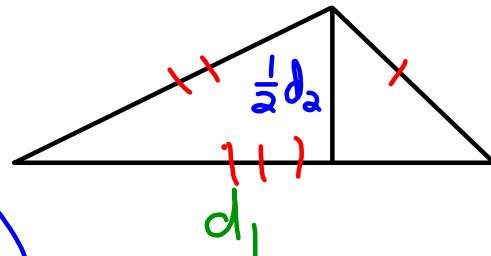
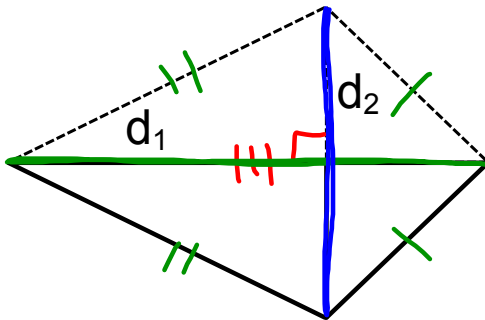
The area of a trapezoid is half the product of the height and the sum of the bases.

$$A = \frac{1}{2}h(b_1 + b_2)$$



Mar 8-11:36 AM

Area of a Kite: using triangles



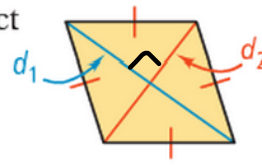
$$A_{\text{kite}} = 2A = 2 \left(\frac{1}{2} d_1 \frac{1}{2} d_2 \right)$$

Mar 8-11:46 AM

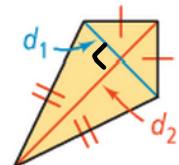
Theorem 10-5 Area of a Rhombus or a Kite

The area of a rhombus or a kite is half the product of the lengths of its diagonals.

$$A = \frac{1}{2}d_1d_2$$



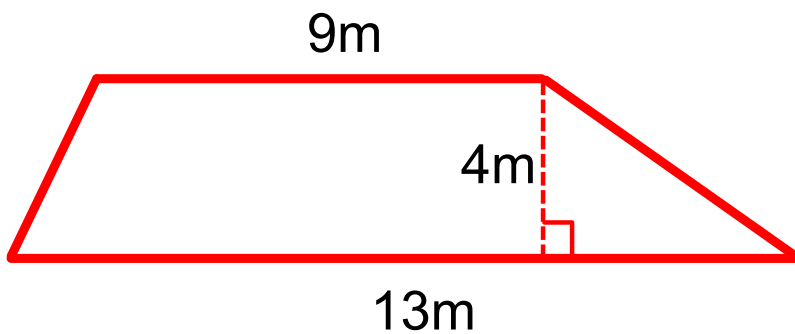
Rhombus



Kite

Mar 8-11:55 AM

Find the area of the trapezoid.



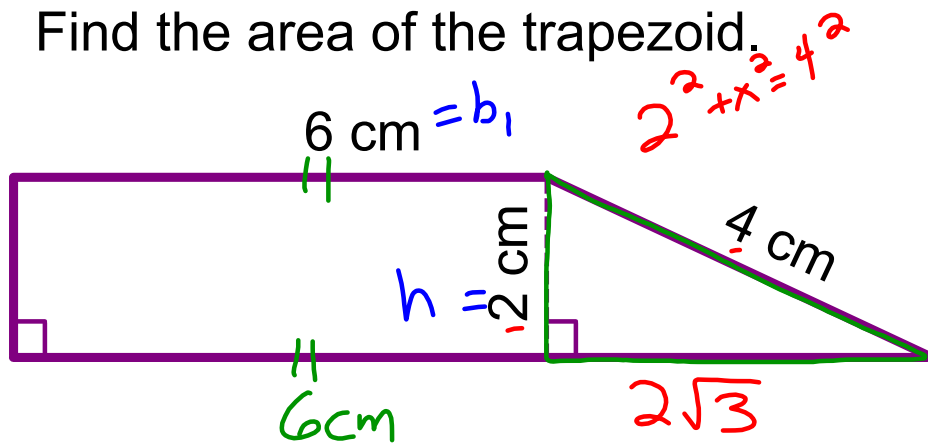
$$A = \frac{1}{2}(4)(9+13)$$

$$A = 2(22)$$

$$A = 44 \text{ m}^2$$

Mar 8-11:38 AM

Find the area of the trapezoid.



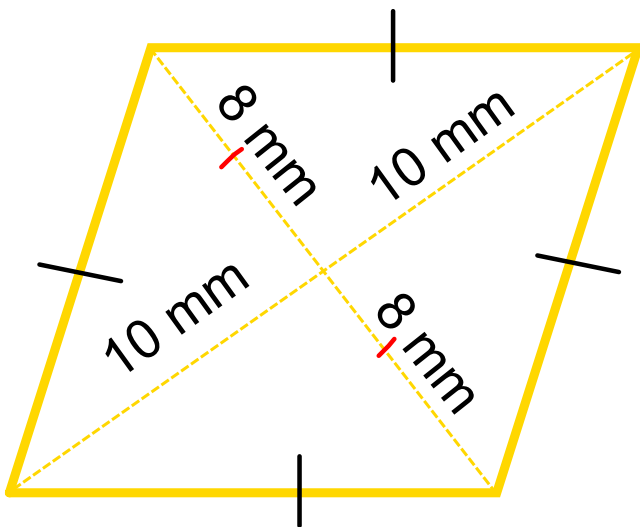
$$b_2 = 6 + 2\sqrt{3}$$

$$A = \frac{1}{2}(\cancel{2})(\underline{6} + \underline{6} + 2\sqrt{3})$$

$$A = 12 + 2\sqrt{3} \text{ cm}^2 \approx 15.46 \text{ cm}^2$$

Mar 8-11:38 AM

Find the area of the shape.



$$d_1 = 16$$

$$d_2 = 20$$

$$A = \frac{1}{2}(16)(\overset{10}{20}) = 160 \text{ mm}^2$$

Mar 8-11:38 AM

Find the area of the shape.

$15^2 + x^2 = 39^2$
 $225 + x^2 = 1521$
 $x^2 = 1296$
 $x = 36$

$15^2 + y^2 = 25^2$
 $225 + y^2 = 625$
 $y^2 = 400$
 $y = 20$

$d_1 = 30$
 $d_2 = 56$

$A = \frac{1}{2}(30)(56) = 840 \text{ ft}^2$

Mar 8-11:38 AM

Estimate the area under the curve $y = 2x^2$ from $x = -2$ to $x = 2$ using triangles and trapezoids.

x	y
-2	8
-1	2
0	0
1	2
2	8

$A = \frac{1}{2}(1)(2) = 1u^2$
 $A = \frac{1}{2}(1)(8+2) = 5u^2$

$5u^2 + 1u^2 + 1u^2 + 5u^2 = 12u^2$

Mar 9-10:32 AM

Homework

Pages 626 - 627

11 - 25 odd, 29 - 32 all, 37, 43

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