

5-14-18

Aim: SWBAT find the area of 2-D shapes.

HW: Pg. 34 - 35 # 3 - 13 odd, 21 - 22

Pg. 145 # 3 - 11 odd

Pg. 523 - 524 # 4 - 6, 15 - 17, 29, 31

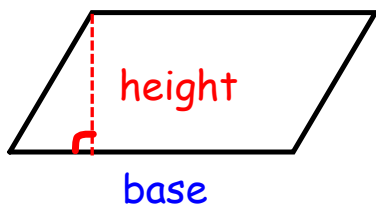
Final Review Packet due May 29

Do Now: What is the difference between perimeter and area?

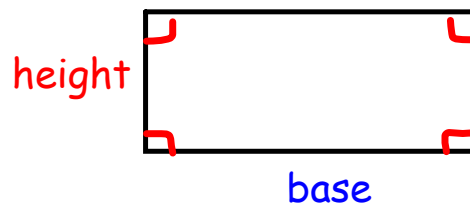
What are some differences between 2-dimensional and 3-dimensional figures?

All these shapes are parallelograms!

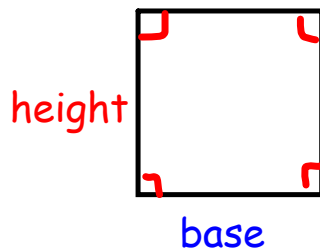
Parallelogram



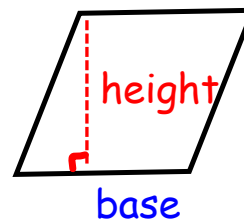
Rectangle



Square



Rhombus



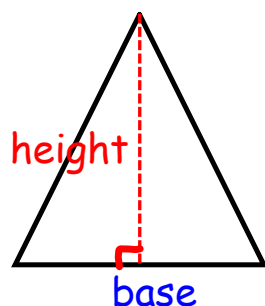
Perimeter = the sum of the side lengths.

AND

Area = the product of the base and height.

$$A=bh$$

Triangle



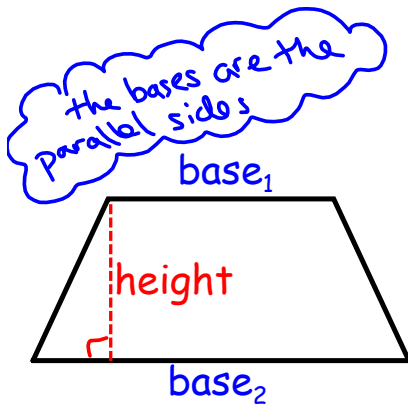
Perimeter = the sum of the side lengths.

AND

Area = the product of the base and height divided by 2.

$$A = \frac{bh}{2} \quad \text{OR} \quad A = \frac{1}{2}bh$$

Trapezoid



Perimeter = the sum of the side lengths.

AND

Area = the product of sum of the **bases** and the **height** divided by 2.

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

Formula Use

1. Write the formula.
2. Substitute the values into their assigned spots.
3. Use Order of Operations or Equation solving skills to find the value of the unknown.
4. Area units get squared.

10.1

Practice A

For use with pages 521-526

Match the polygon with its area formula.

1. parallelogram

2. trapezoid

3. triangle

A. $\frac{1}{2}bh$

B. bh

C. $\frac{1}{2}(b_1 + b_2)h$

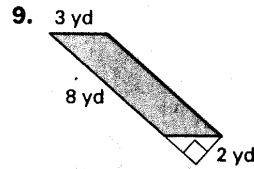
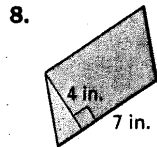
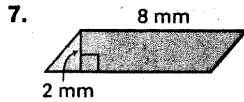
Sketch a parallelogram with base b and height h and find its area.

4. $b = 5$ in., $h = 2$ in.

5. $b = 8$ cm, $h = 15$ cm

6. $b = 13$ ft, $h = 6$ ft

Find the area of the parallelogram.

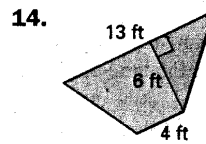
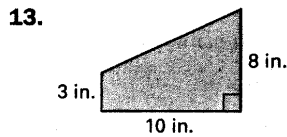
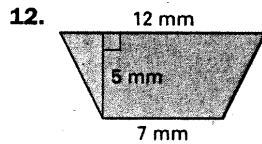


Sketch a trapezoid with bases b_1 and b_2 and height h and find its area.

10. $b_1 = 12$ in., $b_2 = 10$ in., $h = 5$ in.

11. $b_1 = 8$ m, $b_2 = 15$ m, $h = 12$ m

Find the area of the trapezoid.



Sketch the figure. Then use an area formula to find the unknown dimension.

15. A parallelogram has an area of 56 square units. Its height is 7 units. Find the base.

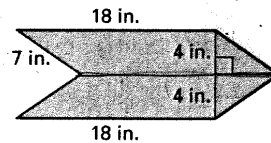
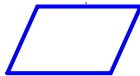
16. A trapezoid has an area of 128 square units. Its bases are 15 units and 17 units. Find the height.

In Exercises 17-19, use the figure.

17. Divide the figure into two parallelograms.

18. Find the area of each parallelogram.

19. Add the two areas to find the total area.



10.1

Practice A

For use with pages 521-526

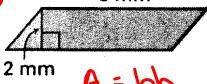
Match the polygon with its area formula.

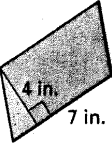
- | | | |
|--------------------|--------------|------------------------------|
| 1. parallelogram | 2. trapezoid | 3. triangle |
| A. $\frac{1}{2}bh$ | B. bh | C. $\frac{1}{2}(b_1 + b_2)h$ |

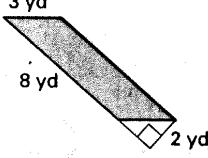
Sketch a parallelogram with base b and height h and find its area.

4. $b = 5$ in., $h = 2$ in. 5. $b = 8$ cm, $h = 15$ cm 6. $b = 13$ ft, $h = 6$ ft

Find the area of the parallelogram.

7.  $A = bh$
 $A = 8 \cdot 2$
 $A = 16 \text{ mm}^2$

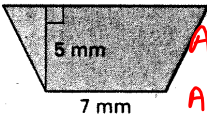
8.  $A = bh$
 $A = 7 \cdot 4$
 $A = 28 \text{ in.}^2$

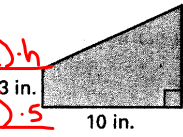
9. 

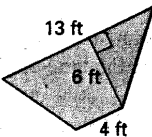
Sketch a trapezoid with bases b_1 and b_2 and height h and find its area.

10. $b_1 = 12$ in., $b_2 = 10$ in., $h = 5$ in. 11. $b_1 = 8$ m, $b_2 = 15$ m, $h = 12$ m

Find the area of the trapezoid.

12.  $A = \frac{(b_1 + b_2) \cdot h}{2}$
 $A = \frac{(12 + 7) \cdot 5}{2}$
 $A = \frac{19 \cdot 5}{2}$
 $A = 47.5 \text{ mm}^2$

13. 

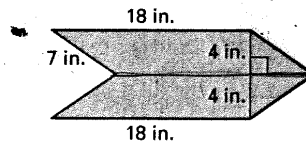
14.  $A = \frac{(b_1 + b_2) \cdot h}{2}$
 $A = \frac{(13 + 4) \cdot 6}{2}$
 $A = \frac{17 \cdot 6}{2}$
 $A = 51 \text{ ft}^2$


Sketch the figure. Then use an area formula to find the unknown dimension.

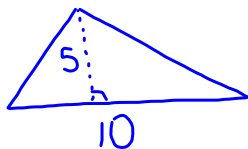
15. A parallelogram has an area of 56 square units. Its height is 7 units. Find the base.
16. A trapezoid has an area of 128 square units. Its bases are 15 units and 17 units. Find the height.

In Exercises 17-19, use the figure.

17. Divide the figure into two parallelograms.
 18. Find the area of each parallelogram.
 19. Add the two areas to find the total area.



* 15.  $A = bh$
 $56 = b \cdot 7$
 $\frac{56}{7} = \frac{b \cdot 7}{7}$
 $8 \text{ units} = b$



$$A = \frac{bh}{2}$$

$$A = \frac{10 \cdot 5}{2}$$

$$A = 25 \text{ units}^2$$

10.1

Practice A

For use with pages 521-526

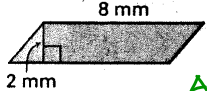
Match the polygon with its area formula.


- | | | |
|--------------------|--------------|------------------------------|
| 1. parallelogram | 2. trapezoid | 3. triangle |
| A. $\frac{1}{2}bh$ | B. bh | C. $\frac{1}{2}(b_1 + b_2)h$ |

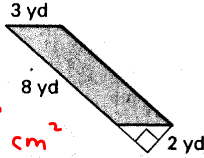
Sketch a parallelogram with base b and height h and find its area.

4. $b = 5$ in., $h = 2$ in. 5. $b = 8$ cm, $h = 15$ cm 6. $b = 13$ ft, $h = 6$ ft

Find the area of the parallelogram.

7.  $A = bh$
 $A = 7 \cdot 4$
 $A = 28 \text{ in.}^2$

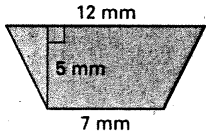
8.  $A = bh$
 $A = 8 \cdot 15$
 $A = 120 \text{ cm}^2$

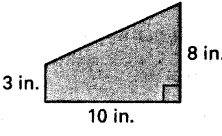
9. 

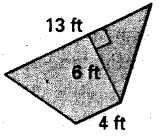
Sketch a trapezoid with bases b_1 and b_2 and height h and find its area.

10. $b_1 = 12$ in., $b_2 = 10$ in., $h = 5$ in. 11. $b_1 = 8$ m, $b_2 = 15$ m, $h = 12$ m

Find the area of the trapezoid.

12.  $A = \frac{(b_1 + b_2)h}{2}$
 $A = \frac{(8 + 15) \cdot 12}{2}$
 $A = \frac{23 \cdot 12}{2}$
 $A = 138 \text{ m}^2$

13. 

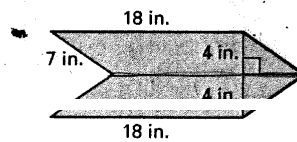
14. 


Sketch the figure. Then use an area formula to find the unknown dimension.

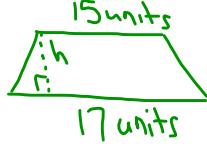
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15.  $A = bh$
 $56 = b \cdot 7$
 $8 \text{ units} = b$

16.  $A = \frac{(b_1 + b_2) \cdot h}{2}$
 $128 = \frac{(15 + 17) \cdot h}{2}$
 $128 = \frac{32h}{2}$
 $128 = 16h$
 $8 \text{ units} = h$