

Your Name

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S 120122

Notes

Lesson 7-3

Perimeter and Area of Composite Figures

Parallelograms

Perimeter

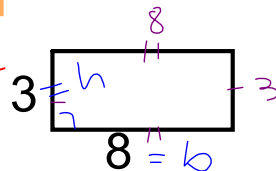
distance around the outside of a shape

$$P = S + S + S + S$$

Area of a Parallelogram

$$A = b \cdot h$$

height must make a right angle 90° with base

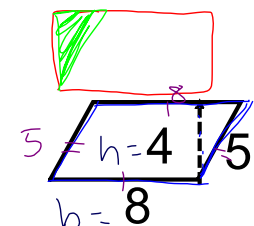
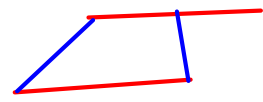


$$A = (8)(3)$$

$$A = 24 \text{ units}^2$$

$$P = 3 + 8 + 3 + 8$$

$$P = 22 \text{ units}$$

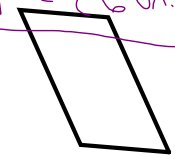


$$A = (8)(4)$$

$$A = 32 \text{ units}^2$$

$$P = 8 + 5 + 8 + 5$$

$$P = 26 \text{ units}$$



Your Turn! Calculate the Area

$7 \text{ ft} \times 7 \text{ ft} = 49 \text{ ft}^2$
 $9 \text{ in} \times 3 \text{ in} = 27 \text{ in}^2$
 $26 \text{ ft} \times 15 \text{ ft} = 390 \text{ ft}^2$

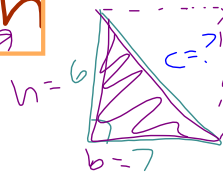
Triangles
Perimeter

$$P = S + S + S$$

Area of a
Triangle

$$A = \frac{1}{2} b \cdot h$$

height is
90° to base

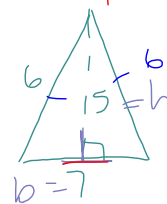


$$A = \frac{1}{2} (7)(6)$$

$$A = \frac{1}{2} (6)(7)$$

$$A = 21 \text{ units}^2$$

$P = 6 + 7 + c$
 would need
 Pythag Thm



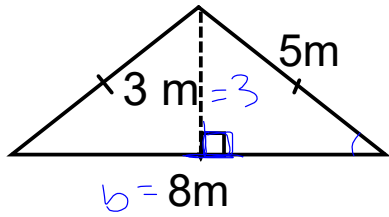
$$A = \frac{1}{2} (7)(5)$$

$$A = 17.5 \text{ units}^2$$

$$P = 6 + 7 + 6$$

$$P = 19 \text{ units}$$

Your Turn! Calculate the Area

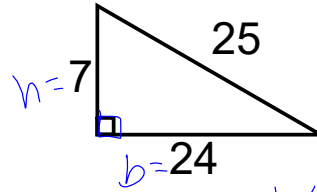


$$A = \frac{1}{2}(8)(3)$$

$$A = 12 \text{ m}^2$$

$$P = 5 + 5 + 8$$

$$P = 18 \text{ m}$$

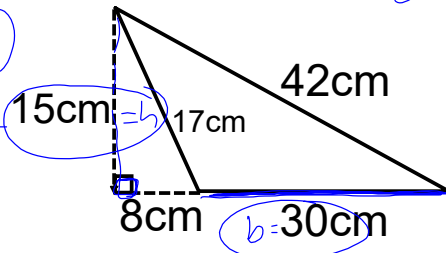


$$A = \frac{1}{2}(24)(7)$$

$$A = 84 \text{ units}^2$$

$$P = 25 + 24 + 7$$

$$P = 56 \text{ units}$$



$$A = \frac{1}{2} \cdot 15 \cdot 30$$

$$A = 225 \text{ cm}^2$$

$$P = 30 + 17 + 42$$

$$P = 89 \text{ cm}$$

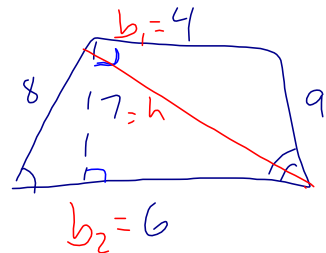
Trapezoid
Perimeter

$$P = s + s + s + s$$

Area of a
Trapezoid

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

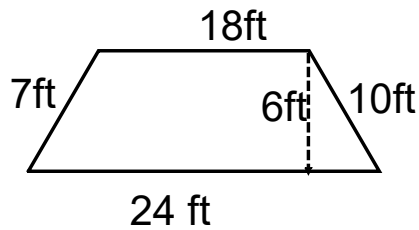
bases are parallel to each other
Perpendicular to both bases



$$A = \frac{1}{2}(4 + 6)(7)$$

$$A = \frac{1}{2}(10)(7)$$

$$A = 35 \text{ units}^2$$



$$A = \frac{1}{2}(18 + 24)(6)$$

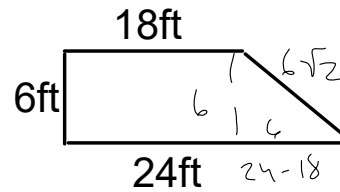
$$A = \frac{1}{2}(42)(6)$$

$$A = 21 \cdot 6$$

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

$$P = 7 + 18 + 10 + 24$$

$$P = 59 \text{ ft}$$



$$A = \frac{1}{2}(24 + 18)(6)$$

$$A = \frac{1}{2}(42)(6)$$

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

$$P = 6 + 24 + 6\sqrt{2} + 18$$

$$P = 41.8 + 8.49$$

$$P = 56.49 \text{ ft}$$

Circles
Perimeter

Circumference

$$C = 2\pi r$$

$$C = 2\pi(4)$$

$$C = 25.13 \text{ ft}$$

Area of a
Circle

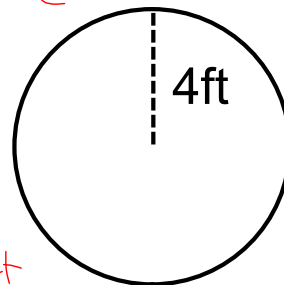
$$A = \pi r^2$$

$$A = \pi(4 \text{ ft})^2$$

$$A = \pi 4 \cdot 4 \cdot \text{ft} \cdot \text{ft}$$

$$A = \pi \cdot 16 \text{ ft}^2$$

$$A = 50.27 \text{ ft}^2$$



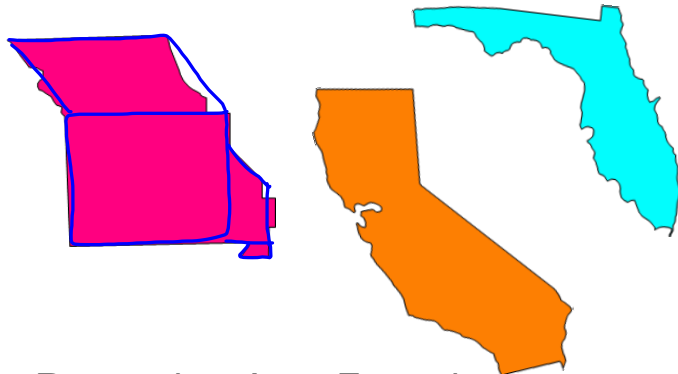
COMPOSITE FIGURES

-a figure that cannot be classified as a single polygon or circle.

To find Area - break figure into known area shapes

formula shapes like: rectangles, circles, triangles, parallelograms and trapezoids

*redraw separated shapes if you need to



Remember Area Formulas:

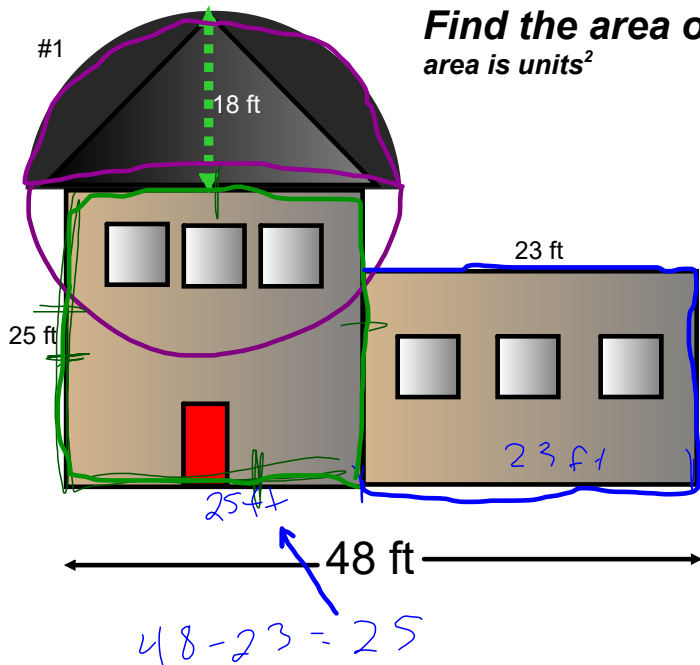
rectangles

circles

triangles

parallelograms

trapezoids



Find the area of the front of the house. Remember area is units²

$$A_{\Delta} + A_{\square} + A_{\square}$$

$$\frac{\pi r^2}{2} + b \cdot h + b \cdot h$$

$$\frac{\pi (18)^2}{2} + 25 \cdot 25 + 23 \cdot 15$$

$$508.6 + 625 + 345$$

$$A = 1478.6 \text{ ft}^2$$

area is squared units

Your Turn! Calculate the Areas requested in Day 2.

3 circles and one composite figure of two trapezoids!