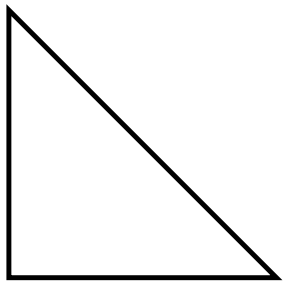
What is area?

You can think of area as the second measure of two 2D measurements.



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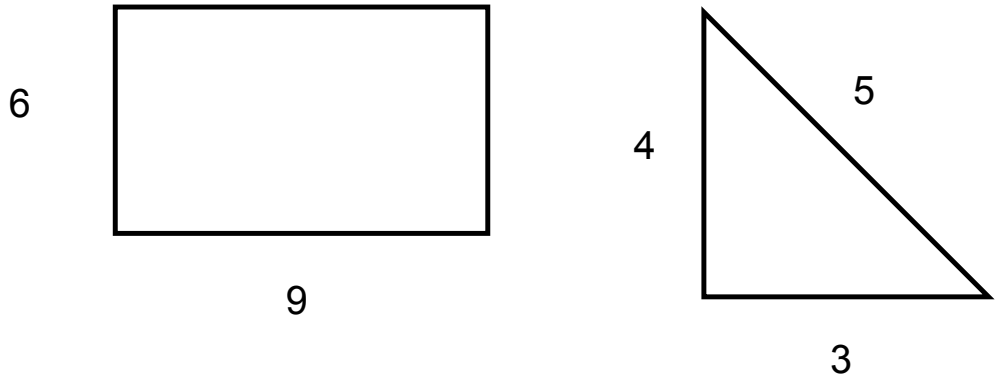
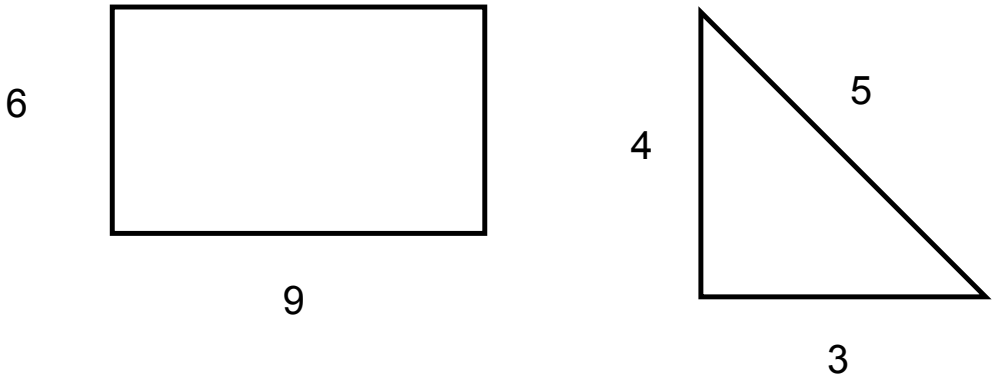
First measurement - perimeter

Just measure the distances around the outside and add.



Second measurement - area

Just measure the amount of surface.



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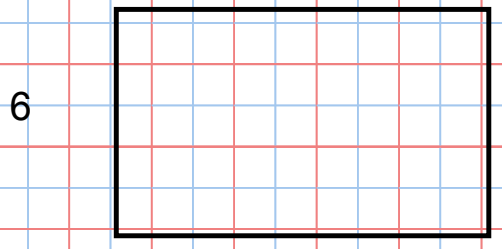
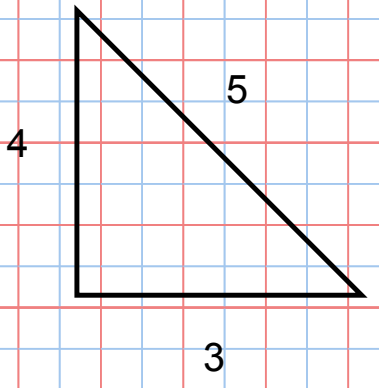
Second measurement - area

Just measure the amount of surface.

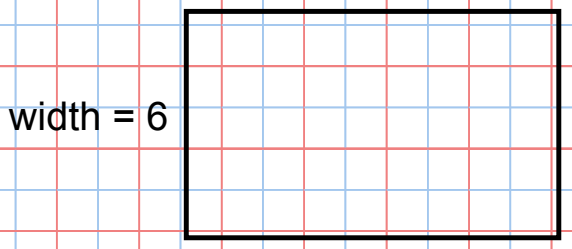


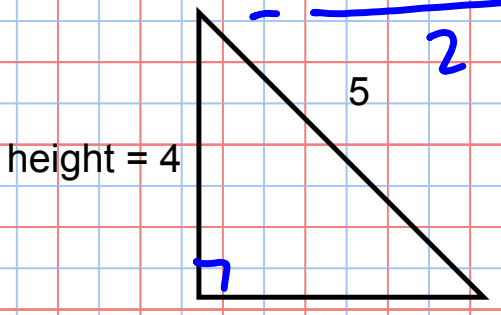


December 10, 2024

Second measurement - area

Or know what the formulas for area are for different shapes.





$A = \frac{1}{2}$ base * height

$= \frac{\text{base} * \text{height}}{2}$

$A = \text{length} \times \text{width}$

$= 9\text{in} \times 6\text{in} = 54\ \text{in} \times \text{in} = 54\ \text{sq in}$ (in^2)

$54\ \text{units}^2$

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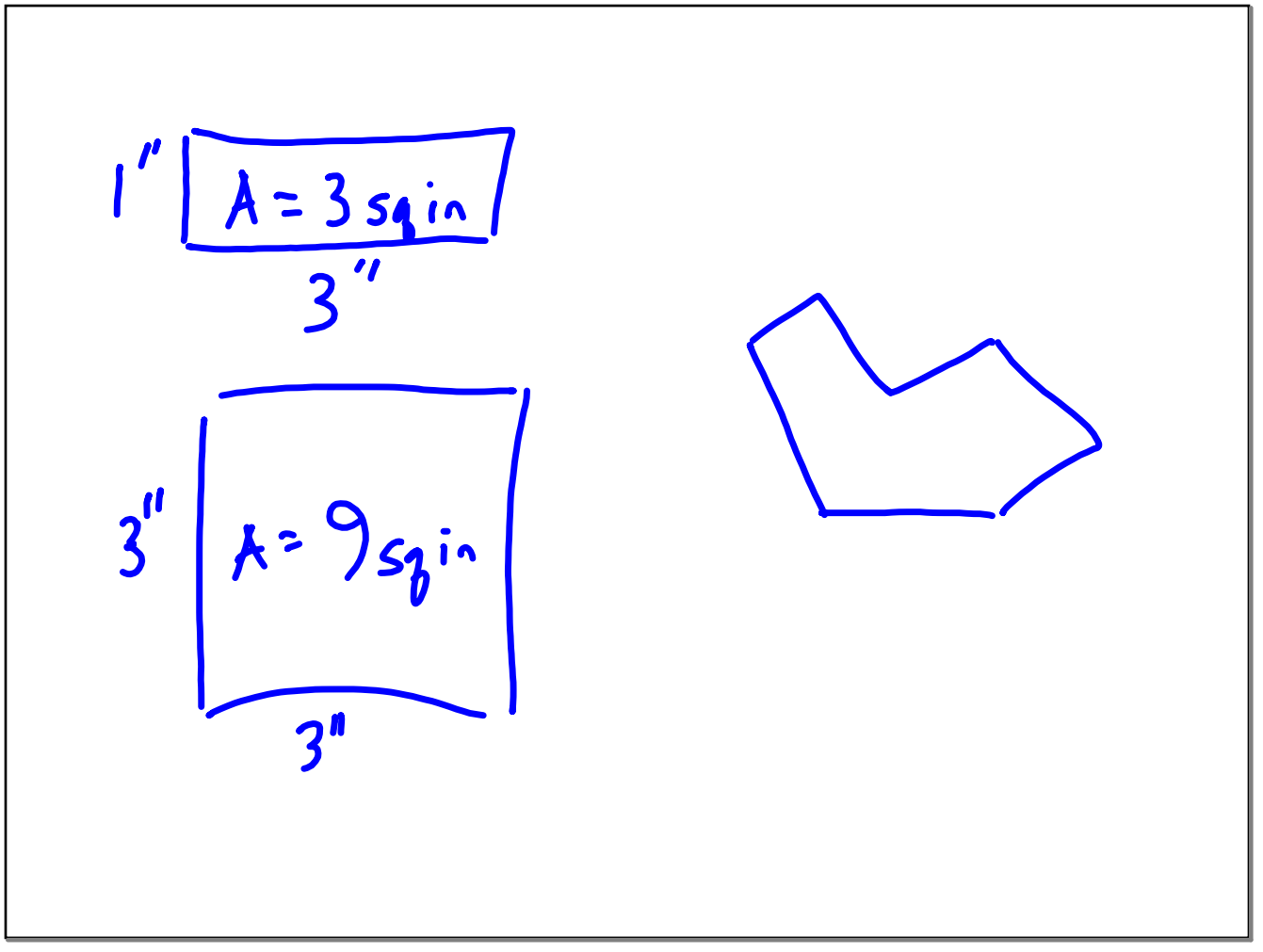

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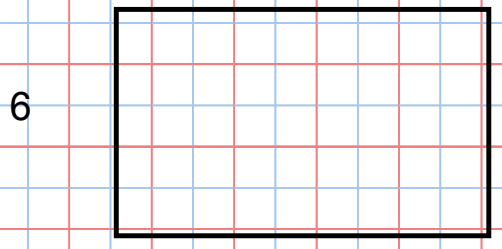
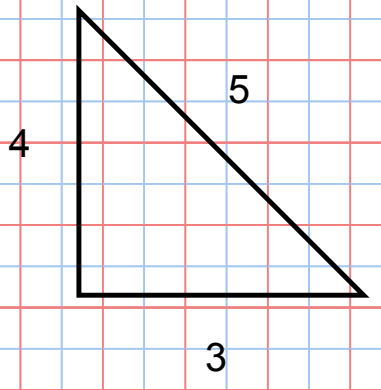
Second measurement - area

Secret - shh...

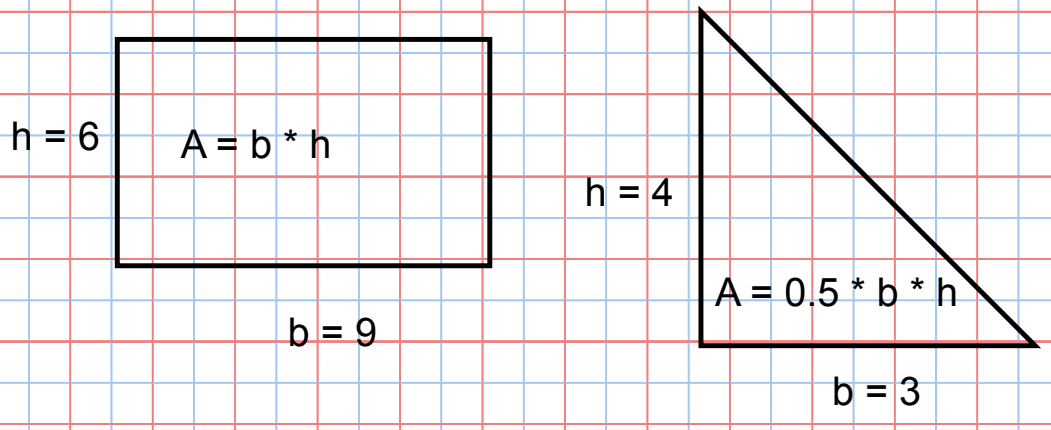




December 10, 2024

Second measurement - area

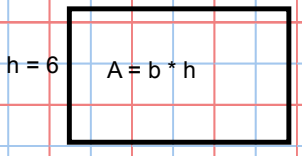
You only really need to know two area formulas for figures with straight sides.

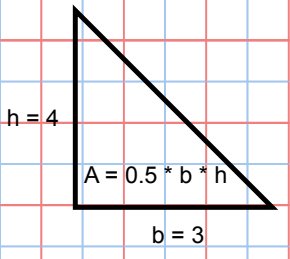


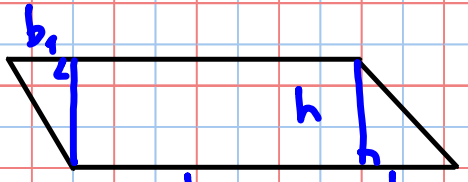
December 10, 2024

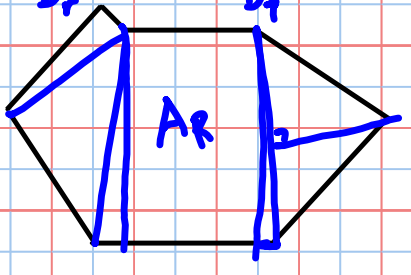
Second measurement - area

You only really need to know two area formulas for figures with straight sides.









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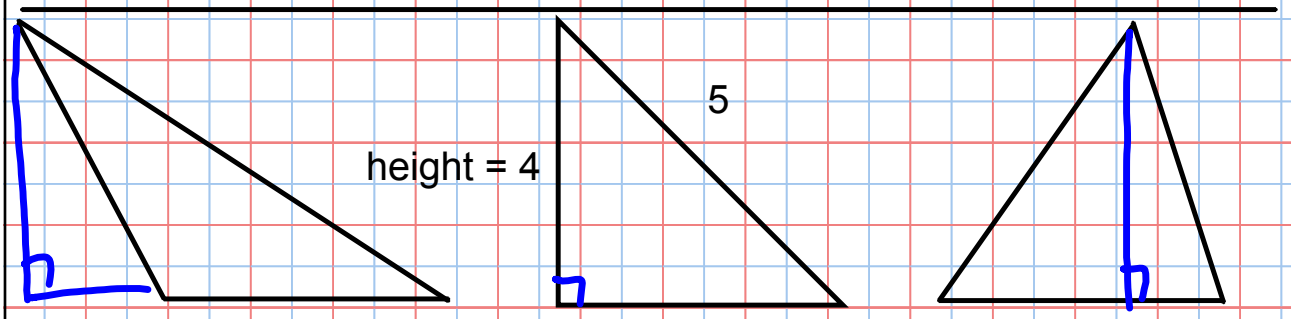
Second measurement - area

Or know what the formulas for area are for different shapes.

$A = \frac{1}{2}$ base * height



6 sq units

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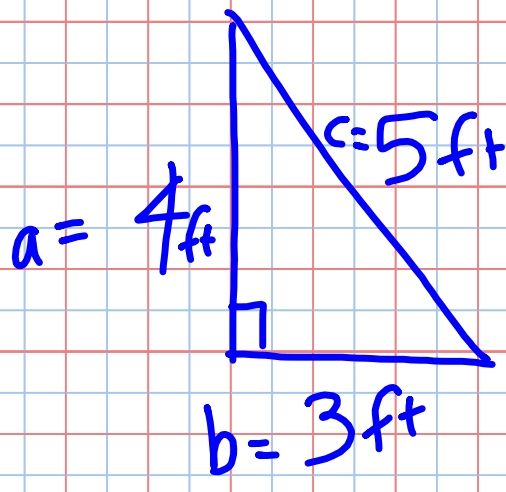
Calculating area

Or know what the formulas for area are for different shapes.

December 10, 2024

Calculating perimeter and area

1. Triangle with sides 3 feet, 4 feet, and 5 feet. Show your work (formula and calculations). Make sure to include units.



$P = a + b + c$

$= 4 + 3 + 5 = 12\,ft$

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

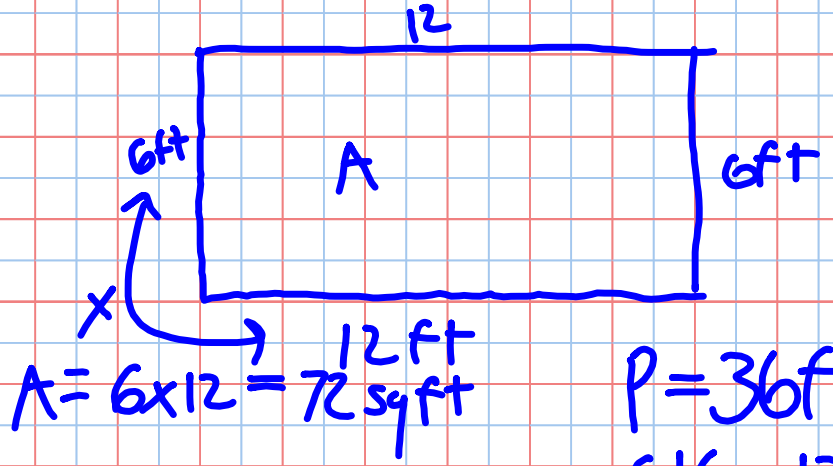
$= \frac{3 \times 4\,ft}{2} = 12\,ft \cdot ft$

$= 12\,ft^2$

December 10, 2024

Calculating perimeter and area

1. Rectangle with sides 6 feet, and 12 feet. Show your work (formula and calculations). Make sure to include units.



$A = 6 \times 12 = 72 \text{ sq ft}$

$P = 36 \text{ ft}$

$6 + 6 = 12$

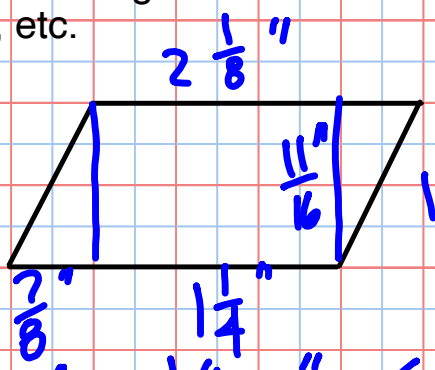
$12 + 12 = 24$

$24 + 12 = 36$

December 10, 2024

Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and height) of the figure (parallelogram), then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.



$A_T = \frac{1}{2}bh$

$= \left(\frac{1}{2}\right)\frac{7}{8}" \times 1"$

$= \frac{7}{8}$ sq in

$P = 2\frac{1}{8}" + 1" + 2\frac{1}{8}" + 1" = 6\frac{2}{8}" = 6\frac{1}{4}"$

$A = A_R + A_T + A_T$

$A_R = B \times H = 1\frac{1}{4}" \times \frac{11}{16}" = 0.059 \text{ in}^2$

$2A_T = \frac{7}{8}$ sq in

$A = 1.46 \text{ in}^2$

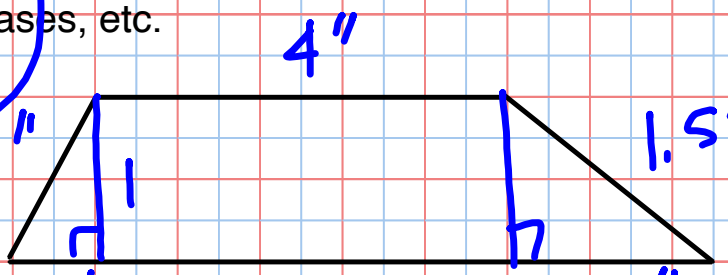
December 10, 2024

Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and height) of the figure (trapezoid), then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.

$A_R = bh$

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



$P = 4" + 1.5" + 1.5" + 4" + .75" + 1.25" = 13 \text{ in}$

$A = A_R + A_{LT} + A_{RT}$

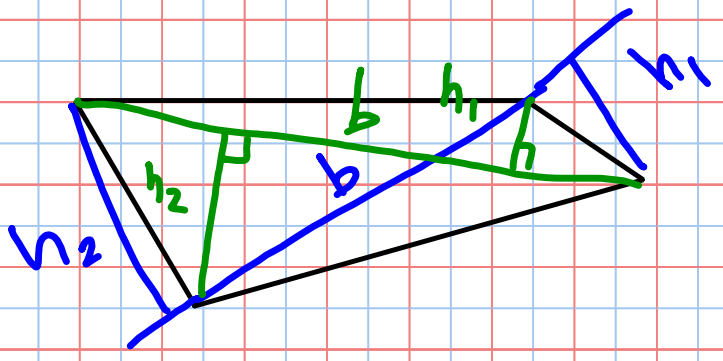
$= 4" \times 1" + \frac{.75" \times 1"}{2} + \frac{1.5" \times 1"}{2}$

$4 \text{ sq in} + .375 \text{ in}^2 + .75 \text{ sq in} = 5.125 \text{ in}^2$

December 10, 2024

Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and height) of the figure (quadrilateral), then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.



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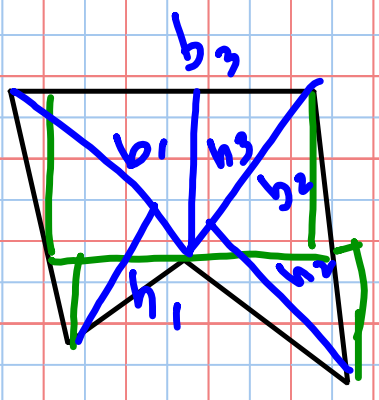
Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and height) of the figure, then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.



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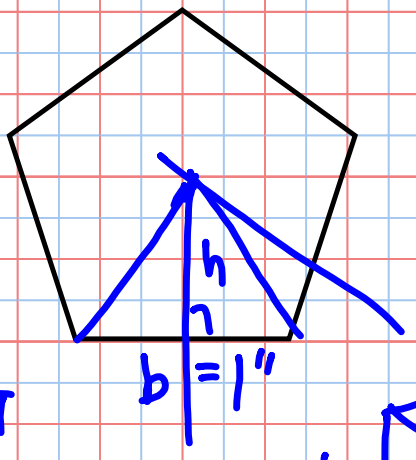
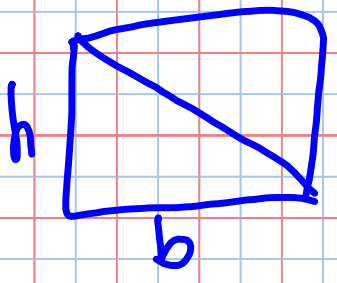
Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and other necessary measurements) of the figure (pentagon), then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.



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

$A_{Pent} = 5A_T$

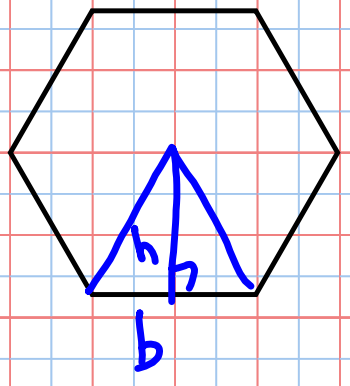


December 10, 2024

Calculating perimeter and area

1. Use a scale or ruler to measure the sides (and other necessary measurements) of the figure (hexagon), then find the perimeter and area. Draw on the figure to show what you use as your heights, bases, etc.

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



$A_H = 6A_T$