

Area of a Composite Shapes On a Grid

COMPOSITE means...

Remember...

The formula for the AREA of a parallelogram is:

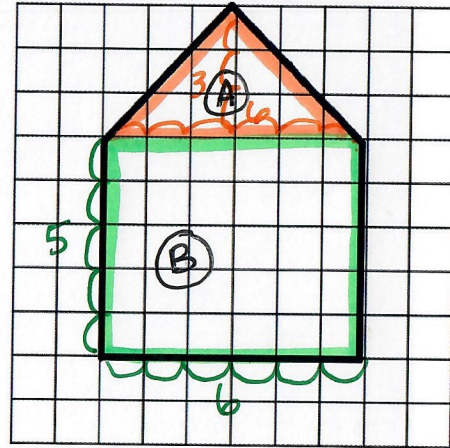
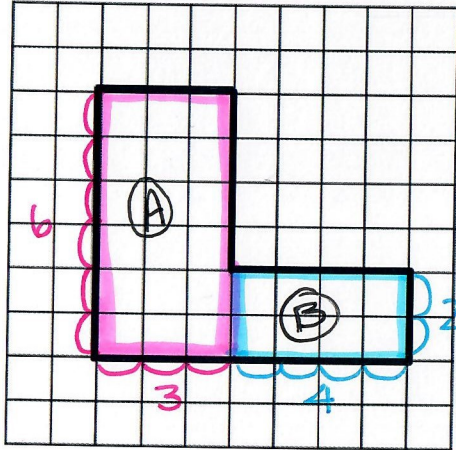
$$A = bh$$

The formula for the AREA of a triangle is:

$$A = \frac{bh}{2} \text{ or } A = \frac{1}{2}bh$$

STEPS

1. Decompose (split up) the shape into familiar shapes.
2. Find the area of each smaller shape using the formulas.
3. Add or subtract the areas to find the total area



My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 3 \cdot 6 \\ A_A &= 18 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 4 \cdot 2 \\ A_B &= 8 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 18 + 8 = 26 \text{ units}^2$$

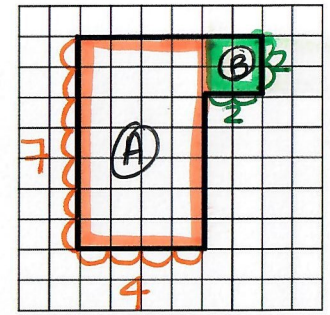
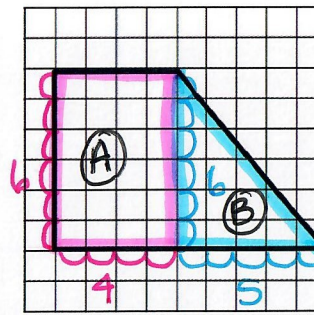
My Work

$$\begin{aligned} A_A: A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2}(6)(3) \\ A_A &= 9 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 6 \cdot 5 \\ A_B &= 30 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 9 + 30 = 39 \text{ units}^2$$



My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 4 \cdot 6 \\ A_A &= 24 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= \frac{1}{2}bh \\ A_B &= \frac{1}{2}(5)(6) \\ A_B &= 15 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 24 + 15 = 39 \text{ units}^2$$

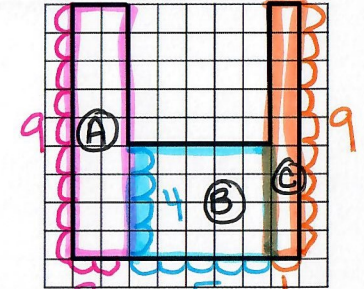
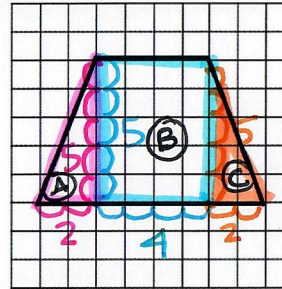
My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 4 \cdot 7 \\ A_A &= 28 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 2 \cdot 2 \\ A_B &= 4 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 28 + 4 = 32 \text{ units}^2$$



My Work

$$\begin{aligned} A_A: A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2}(2)(5) \\ A_A &= 5 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 4 \cdot 5 \\ A_B &= 20 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_C: A_C &= \frac{1}{2}bh \\ A_C &= \frac{1}{2}(2)(5) \\ A_C &= 5 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 5 + 20 + 5 = 30 \text{ units}^2$$

My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 2 \cdot 9 \\ A_A &= 18 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 5 \cdot 4 \\ A_B &= 20 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A_C: A_C &= bh \\ A_C &= 1 \cdot 9 \\ A_C &= 9 \text{ units}^2 \end{aligned}$$

Total Area:

$$A_T = 18 + 20 + 9 = 47 \text{ units}^2$$

Area of a Composite Shapes

Measurements Given

COMPOSITE means...

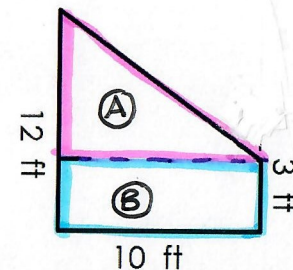
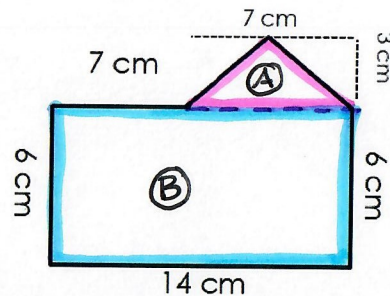
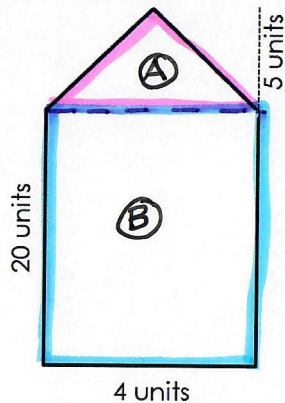
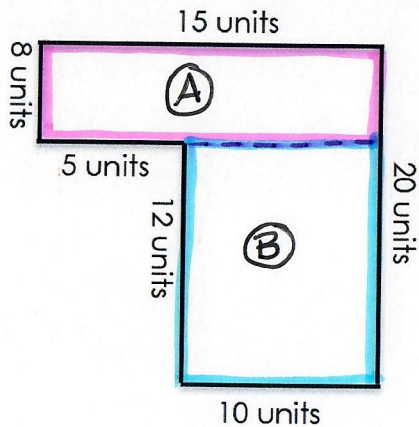
Remember...

The formula for the AREA of a parallelogram is:
 $A = bh$

The formula for the AREA of a triangle is:
 $A = \frac{bh}{2}$ or $A = \frac{1}{2}bh$

STEPS

1. Decompose (split up) the shape into familiar shapes.
2. Find the area of each smaller shape using the formulas.
3. Add or subtract the areas to find the total area



My Work

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

$$A_A = \frac{1}{2}(7)(3)$$

$$A_A = \frac{1}{2}(21) = 10.5\text{cm}^2$$

$$A_B = bh$$

$$A_B = (14)(6)$$

$$A_B = 84\text{cm}^2$$

Total Area:

$$A_T = 10.5 + 84 = 94.5\text{cm}^2$$

My Work

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

$$A_A = \frac{1}{2}(10)(9)$$

$$A_A = 45\text{ft}^2$$

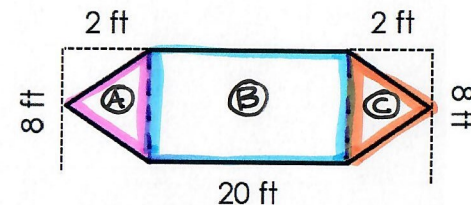
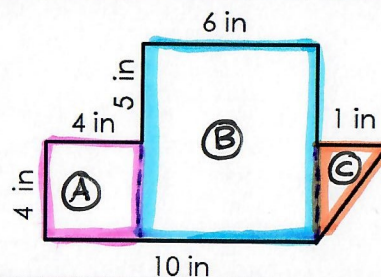
$$A_B = bh$$

$$A_B = 10(3)$$

$$A_B = 30\text{ft}^2$$

Total Area:

$$A_T = 45 + 30 = 75\text{ft}^2$$



My Work

$$A_A = bh$$

$$A_A = 15 \cdot 8$$

$$A_A = 120\text{units}^2$$

$$A_B = bh$$

$$A_B = 10 \cdot 12$$

$$A_B = 120\text{units}^2$$

Total Area:

$$A_T = 120 + 120 = 240\text{units}^2$$

My Work

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

$$A_A = \frac{1}{2}(4)(5)$$

$$A_A = 10\text{units}^2$$

$$A_B = bh$$

$$A_B = 4 \cdot 20$$

$$A_B = 80\text{units}^2$$

Total Area:

$$A_T = 10 + 80 = 90\text{units}^2$$

My Work

$$A_A = bh$$

$$A_A = 4 \cdot 4$$

$$A_A = 16\text{in}^2$$

$$A_B = bh$$

$$A_B = 6(9)$$

$$A_B = 54\text{in}^2$$

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

$$A_C = \frac{1}{2}(1)(4)$$

$$A_C = 2\text{in}^2$$

Total Area:

$$A_T = 16 + 54 + 2 = 72\text{in}^2$$

My Work

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

$$A_A = \frac{1}{2}(8)(2)$$

$$A_A = 8\text{ft}^2$$

$$A_B = bh$$

$$A_B = 20(8)$$

$$A_B = 160\text{ft}^2$$

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

$$A_C = \frac{1}{2}(8)(2)$$

$$A_C = 8\text{ft}^2$$

Total Area:

$$A_T = 8 + 160 + 8 = 176\text{ft}^2$$

Area of a Composite Shapes

Subtract to get the Area

COMPOSITE means...

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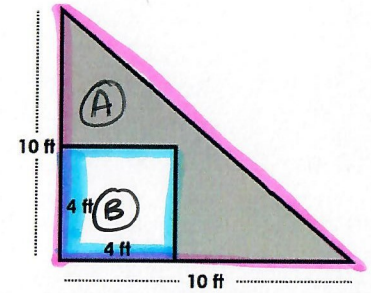
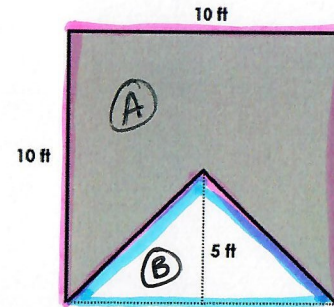
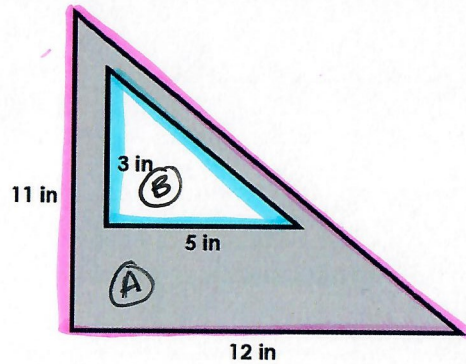
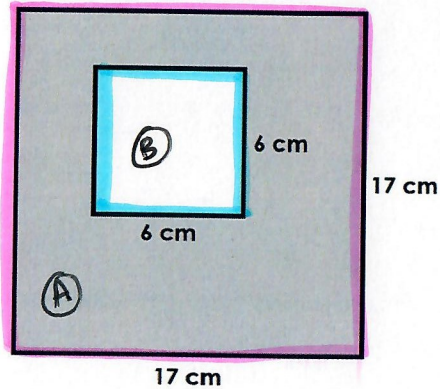
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STEPS

1. Decompose (split up) the shape into familiar shapes.
2. Find the area of each smaller shape using the formulas.
3. Add or subtract the areas to find the total area



My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 10 \cdot 10 \\ A_A &= 100 \text{ft}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= \frac{1}{2}bh \\ A_B &= \frac{1}{2}(10)(5) \\ A_B &= 25 \text{ft}^2 \end{aligned}$$

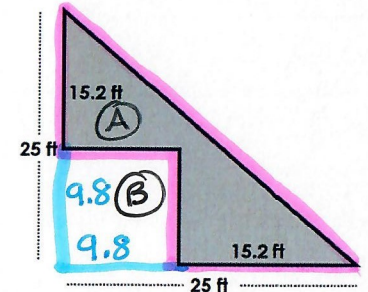
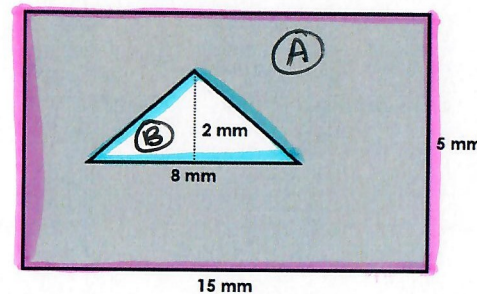
$$\text{Total Area: } A_T = 100 - 25 = 75 \text{ft}^2$$

My Work

$$\begin{aligned} A_A: A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2}(10)(10) \\ A_A &= 50 \text{ft}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 4 \cdot 4 \\ A_B &= 16 \text{ft}^2 \end{aligned}$$

$$\text{Total Area: } A_T = 50 - 16 = 34 \text{ft}^2$$



My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 17(17) \\ A_A &= 289 \text{cm}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= 6 \cdot 6 \\ A_B &= 36 \text{cm}^2 \end{aligned}$$

$$\text{Total Area: } A_T = 289 - 36 = 253 \text{cm}^2$$

My Work

$$\begin{aligned} A_A: A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2}(12)(11) \\ A_A &= 66 \text{in}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= \frac{1}{2}bh \\ A_B &= \frac{1}{2}(5)(3) \\ A_B &= 7.5 \text{in}^2 \end{aligned}$$

$$\text{Total Area: } A_T = 66 - 7.5 = 58.5 \text{in}^2$$

My Work

$$\begin{aligned} A_A: A_A &= bh \\ A_A &= 15 \cdot 5 \\ A_A &= 75 \text{mm}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= \frac{1}{2}bh \\ A_B &= \frac{1}{2}(8)(2) \\ A_B &= 8 \text{mm}^2 \end{aligned}$$

$$\text{Total Area: } A_T = 75 - 8 = 67 \text{mm}^2$$

My Work

$$\begin{aligned} A_A: A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2}(25)(25) \\ A_A &= 312.5 \text{ft}^2 \end{aligned}$$

$$\begin{aligned} A_B: A_B &= bh \\ A_B &= (9.8)(9.8) \\ A_B &= 96.04 \text{ft}^2 \end{aligned}$$

$$\text{Total Area: } A_T = 312.5 - 96.04 = 216.46 \text{ft}^2$$