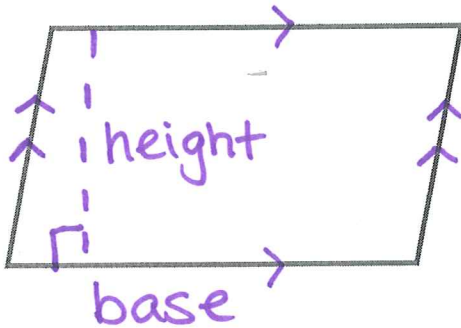


Introducing Area- Notes

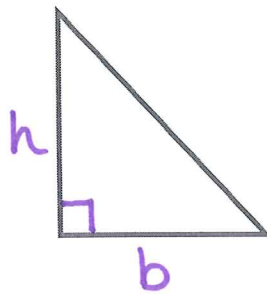
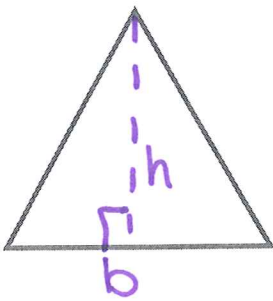
Deriving Area Formulas

Parallelogram:



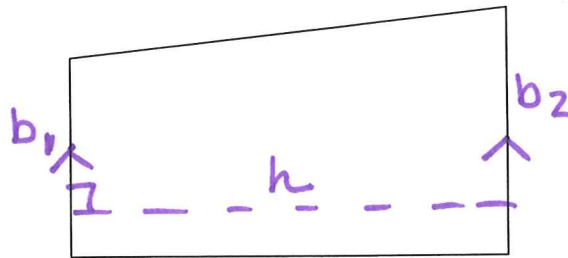
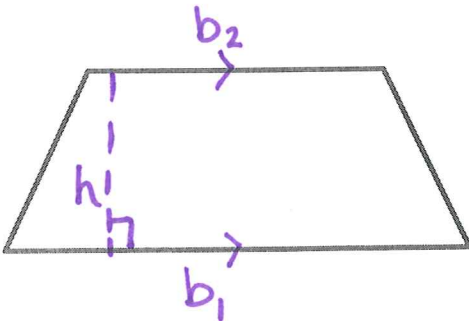
$$A = b \cdot h$$

Triangle:



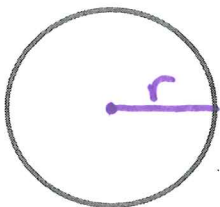
$$A = \frac{1}{2} (b \cdot h)$$

Trapezoid:



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

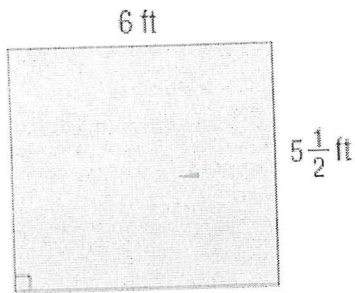
Circle:



$$A = \pi r^2$$

Examples with Area Formulas

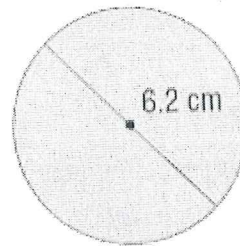
2A.



$$A = b \cdot h$$

$$A = (6)(5.5) = 33 \text{ ft}^2$$

2B.



$$d = 6.2 \text{ cm}$$

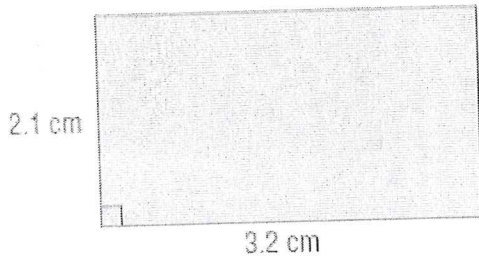
$$r = 3.1 \text{ cm}$$

$$A = \pi r^2$$

$$A = \pi (3.1)^2$$

$$A = 9.61 \pi \text{ cm}^2$$

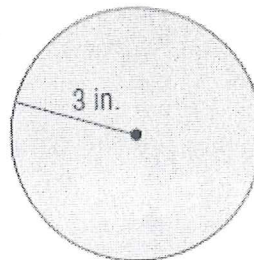
a.



$$A = (3.2)(2.1)$$

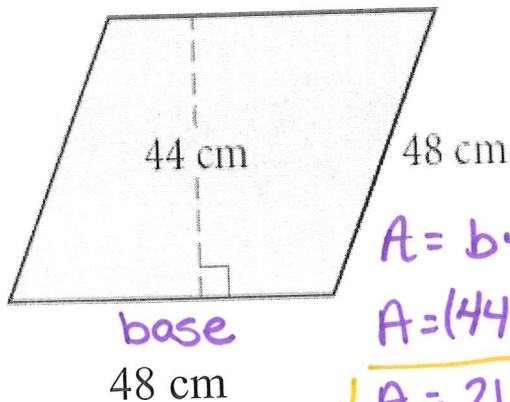
$$A = 6.72 \text{ cm}^2$$

b.



$$A = \pi (3)^2$$

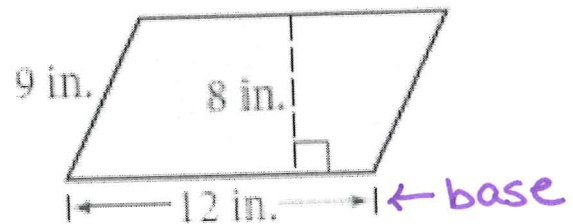
$$A = 9\pi \text{ in.}^2$$



$$A = b \cdot h$$

$$A = (44)(48)$$

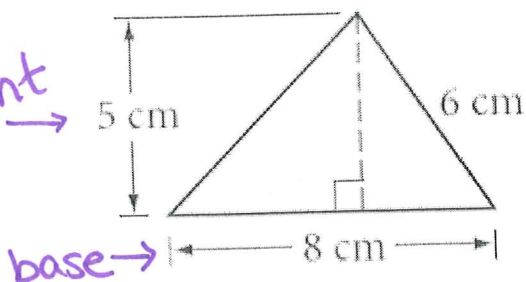
$$A = 2112 \text{ cm}^2$$



$$A = (12)(8)$$

$$A = 96 \text{ in}^2$$

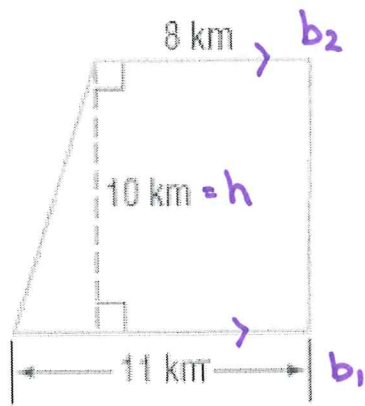
height →



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

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

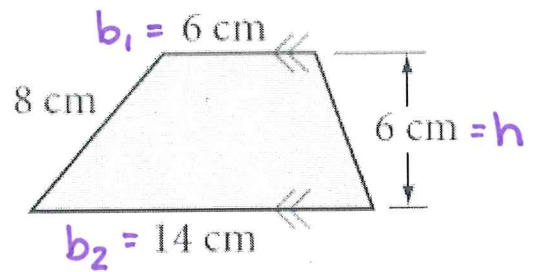
$$A = 20 \text{ cm}^2$$



$$A = \frac{1}{2} (10) (8 + 11)$$

$$A = \frac{1}{2} (10) (19)$$

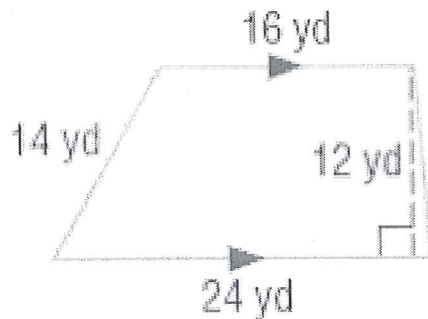
$$A = 95 \text{ km}^2$$



$$A = \frac{1}{2} (6) (6 + 14)$$

$$A = \frac{1}{2} (6) (20)$$

$$A = 60 \text{ cm}^2$$



$$A = \frac{1}{2} (12) (16 + 24)$$

$$A = \frac{1}{2} (12) (40)$$

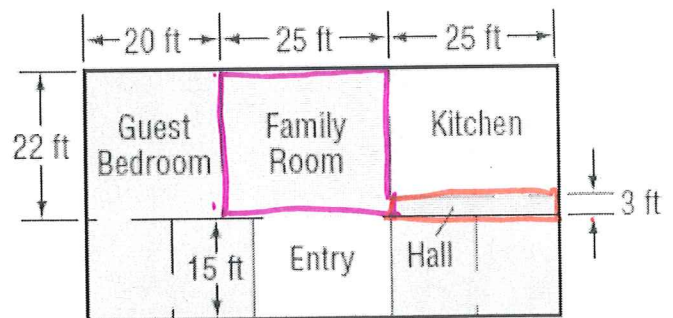
$$A = 240 \text{ yd}^2$$

INTERIOR DESIGN The Bessos are planning to have new carpet installed in their guest bedroom, family room, and hallway. Find the number of square yards of carpet they should order if all rooms are rectangular.

Guest bedroom: $A = (20)(22)$
 $A = 440 \text{ ft}^2$

Family Room: $A = (25)(22)$
 $A = 550 \text{ ft}^2$

Hallway: $A = (3)(25)$
 $A = 75 \text{ ft}^2$



$$\text{Total ft}^2 = 1065 \text{ ft}^2$$

$$3 \text{ ft} = 1 \text{ yd}$$

$$9 \text{ ft}^2 = 1 \text{ yd}^2$$

$$\text{Total yd}^2: \frac{1065}{9} = 118.\bar{3} \text{ yd}^2$$