Lesson 11-2

Area of Trapezoids, Rhombi and Kites

You will be able to find the area of trapezoids, rhombi and kites

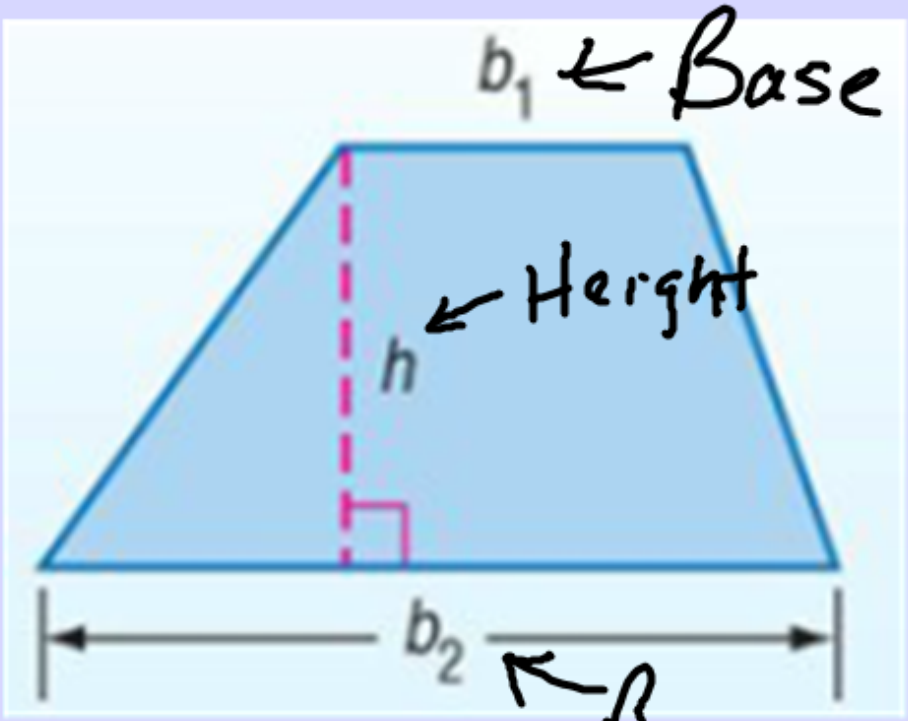
Essential Question: How many square feet of tile would it take to replace the tile in our classroom?

Area of Trapezoids

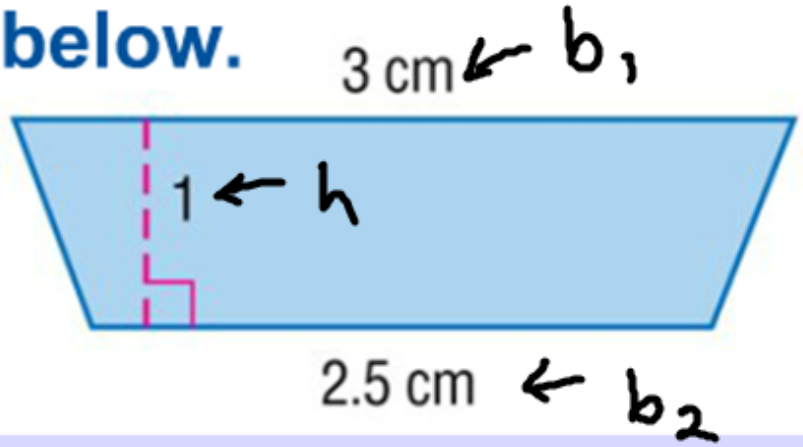
$$A = \frac{1}{2}h(b_1 + b_2)$$

height — distance btwn sides

Bases (the parallel sides)



SHAVING Find the area of steel used to make the side of the razor blade shown below.



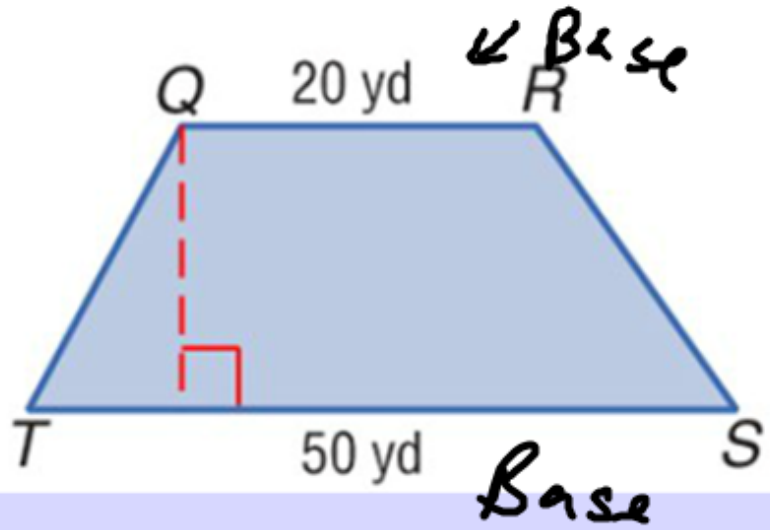
$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = \frac{1}{2}(1)(3 + 2.5)$$

$$A = \frac{1}{2}(1)(5.5)$$

$$A = 2.75 \text{ cm}^2$$

Trapezoid *QRST* has an area of 210 square yards. Find the height of *QRST*.



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

$$210 = \frac{1}{2}h(20 + 50)$$

$$210 = \frac{1}{2}h(70)$$

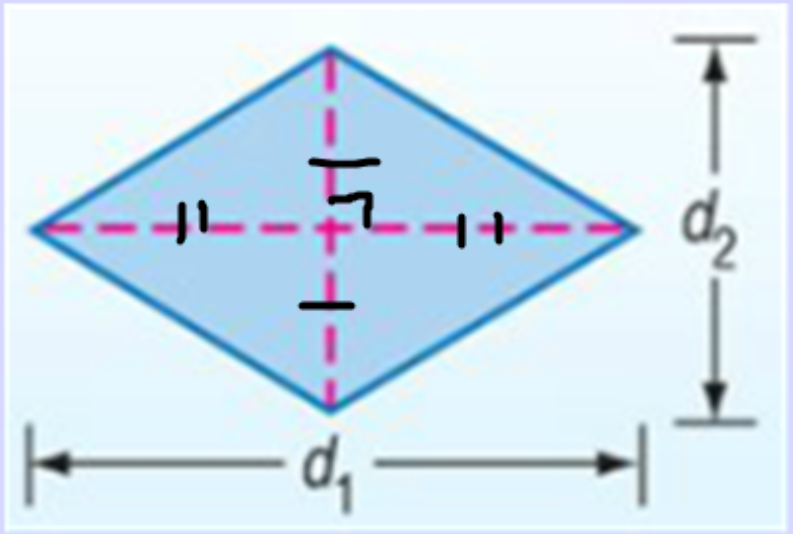
$$\frac{210}{35} = \frac{35h}{35}$$

$$6 \text{ yd} = h$$

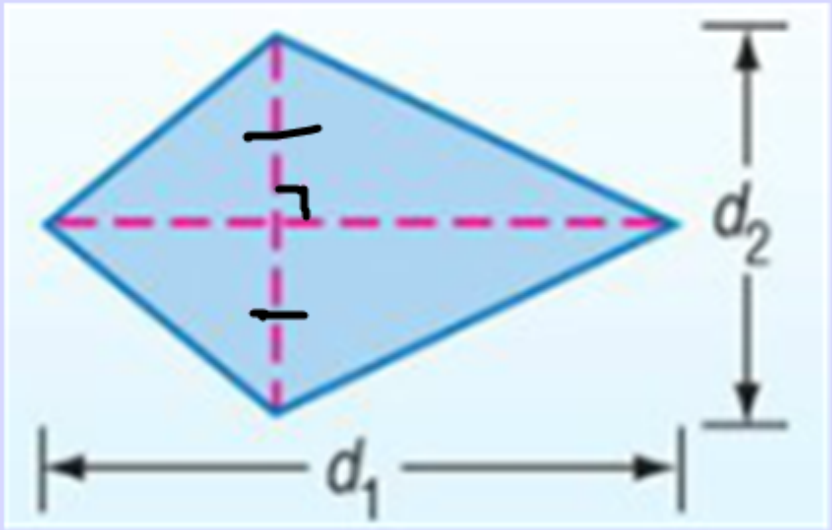
Areas of Rhombi and Kites

$$A = \frac{1}{2} d_1 d_2$$

diagonals



$$A = \frac{1}{2} d_1 d_2$$



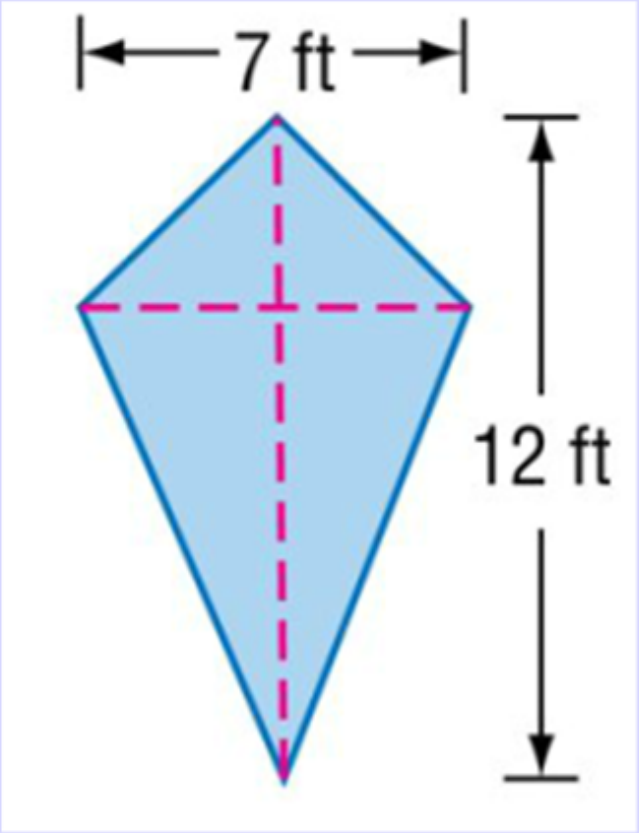
Find the area of the kite

$$A = \frac{1}{2} d_1 d_2$$

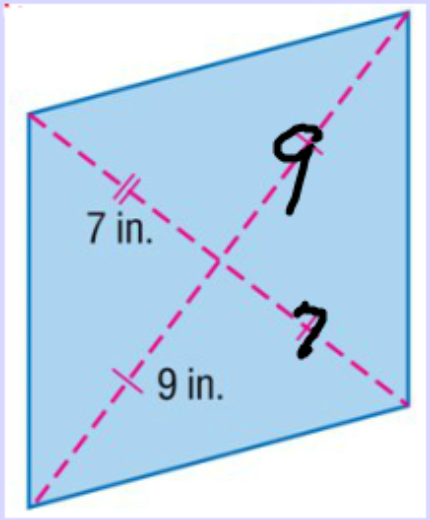
$$A = \frac{1}{2}(7)(12)$$

$$A = \frac{1}{2}(84)$$

$$A = 42 \text{ ft}^2$$



Find the area of the rhombus



$$A = \frac{1}{2} d_1 d_2$$

$$A = \frac{1}{2}(14)(18)$$

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