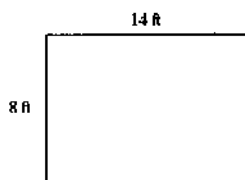


Area Quiz

Name Key

Find the area of the following rounding to the nearest tenth and using the appropriate units.

1.

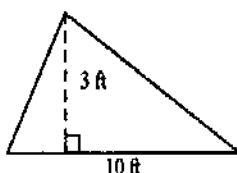


$$A = lw$$

$$A = 14(8)$$

$$A = 112.0 \text{ ft}^2$$

2.

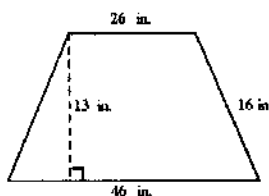


$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(10)(3)$$

$$A = 15.0 \text{ ft}^2$$

3.



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

$$A = \frac{1}{2}(13)(26 + 46)$$

$$A = \frac{1}{2}(13)(72)$$

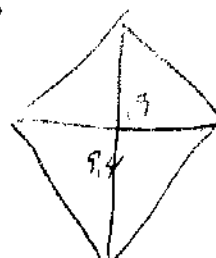
$$A = 468.0 \text{ in}^2$$

4. A kite has diagonals 9.4 ft and 9 ft. What is the area of the kite?

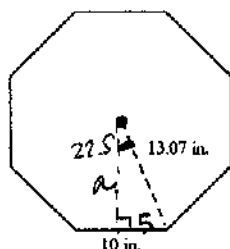
$$A = \frac{1}{2}d_1d_2$$

$$A = \frac{1}{2}(9.4)(9)$$

$$A = 42.3 \text{ ft}^2$$



5.



$$P = 10 \cdot 8 = 80$$

$$360 \div 8 = 45$$

$$45 \div 2 = 22.5$$

$$\cos 22.5 = \frac{a}{13.07}$$

$$a = 13.07 \cos 22.5$$

$$a = 12.1$$

$$A = \frac{1}{2}Pa$$

$$A = \frac{1}{2}(80)(12.1)$$

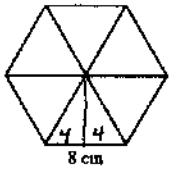
$$A = 484.0 \text{ in}^2$$

$$\tan 22.5 = \frac{5}{a}$$

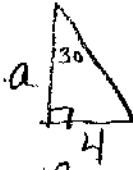
$$a = 5 \div \tan 22.5$$

$$a = 12.1$$

6. You are planning to use a ceramic tile design in your new bathroom. The tiles are blue and white equilateral triangles. You decide to arrange the blue tiles in a hexagonal shape as shown. If the side of each tile measures 8 centimeters, what will be the exact area of each hexagonal shape?



$$P = 8 \cdot 6 = 48$$



$$360 \div 6 = 60$$

$$60 \div 2 = 30$$

$$\tan 30 = \frac{4}{a}$$

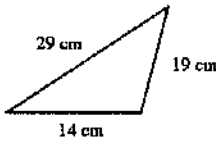
$$a = 4 \div \tan 30$$

$$a = 6.9$$

$$A = \frac{1}{2} Pa$$

$$A = \frac{1}{2} (48)(6.9)$$

$$A = 165.6 \text{ cm}^2$$



Drawing not to scale

$$S = \frac{a+b+c}{2}$$

$$S = \frac{14+19+29}{2}$$

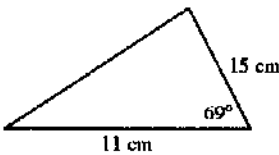
$$S = 31$$

$$A = \sqrt{S(S-a)(S-b)(S-c)}$$

$$A = \sqrt{31(31-14)(31-19)(31-29)}$$

$$A = \sqrt{31(17)(12)(2)}$$

$$A = 112.5 \text{ cm}^2$$

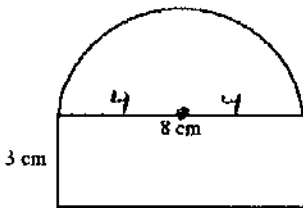


$$A = \frac{1}{2} ab \sin C$$

$$A = \frac{1}{2} (11)(15) \sin 69$$

$$A = 77.0 \text{ cm}^2$$

9. Find the area of the figure to the nearest square unit.



$$A_{\square} = lw$$

$$A_{\square} = 8 \cdot 3$$

$$A_{\square} = 24$$

$$A_{\Delta} = \frac{1}{2} \pi r^2$$

$$A_{\Delta} = \frac{1}{2} \pi 4^2$$

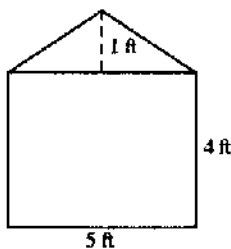
$$A_{\Delta} = \frac{1}{2} \pi 16$$

$$A_{\Delta} = 8\pi$$

$$A_{\Delta} = 25$$

$$A = A_{\square} + A_{\Delta} = 24 + 25 = 49 \text{ cm}^2$$

10. The diagram shows the dimensions of the front of a storage building. What is the area of the entire front of the building?



$$A_{\Delta} = \frac{1}{2} bh$$

$$A_{\Delta} = \frac{1}{2} (5)(1)$$

$$A_{\Delta} = 2.5$$

$$A_{\square} = lw$$

$$A_{\square} = 5(4)$$

$$A_{\square} = 20$$

$$A = A_{\Delta} + A_{\square} = 2.5 + 20 = 22.5 \text{ ft}^2$$