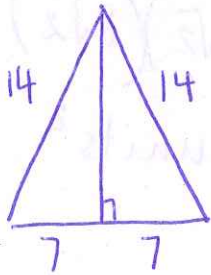


Directions: Find the area of each polygon described. Leave answers in radical form.

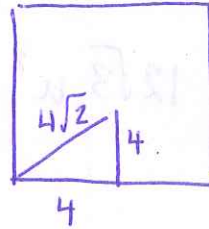
1) A regular triangle with perimeter 42in.



$$A = \frac{1}{2} (14)(7\sqrt{3})$$

$$= 49\sqrt{3} \text{ in}^2$$

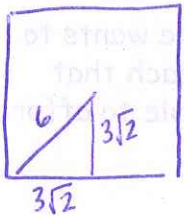
2) A square with apothem 4cm.



$$A = \frac{1}{2} (4)(32)$$

$$= 64 \text{ cm}^2$$

3) A square with radius 6ft.



$$A = \frac{1}{2} (3\sqrt{2})(24\sqrt{2})$$

$$= 72 \text{ ft.}^2$$

4) A regular pentagon with perimeter 60m and apothem 8.25m

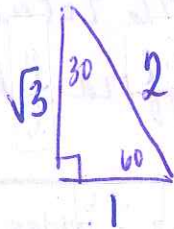
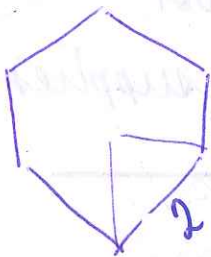


$$A = \frac{1}{2} a p$$

$$= \frac{1}{2} (8.25)60$$

$$A = 247.5 \text{ m}^2$$

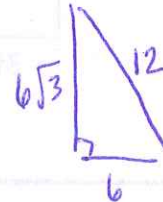
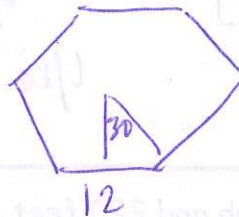
5) A regular hexagon with perimeter 12



$$A = \frac{1}{2} (\sqrt{3})(12)$$

$$= 6\sqrt{3} \text{ u}^2$$

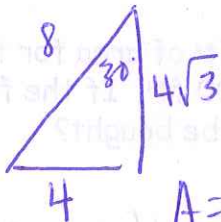
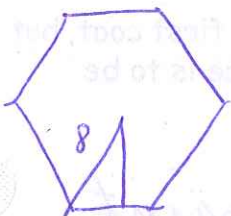
6) A regular hexagon with sides 12in.



$$A = \frac{1}{2} (6\sqrt{3}) 72$$

$$= 216\sqrt{3} \text{ in}^2$$

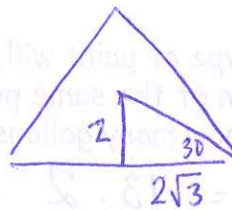
7) A regular hexagon with radius 8cm.



$$A = \frac{1}{2} (4\sqrt{3})(48)$$

$$= 96\sqrt{3} \text{ cm}^2$$

8) An equilateral triangle with apothem 2cm.

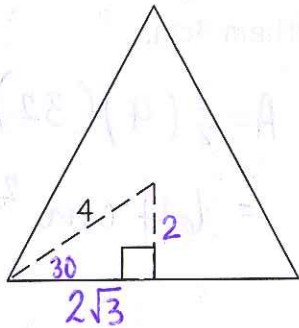


$$A = \frac{1}{2} (2)(12\sqrt{3})$$

$$= 12\sqrt{3} \text{ cm}^2$$

Directions: Find the area of each regular polygon. Leave answers in radical form.

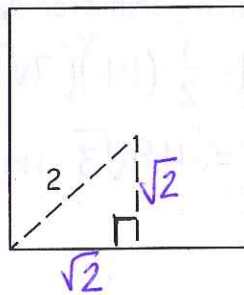
9)



$$A = \frac{1}{2} (2) (12\sqrt{3})$$

$$= 12\sqrt{3} \text{ u}^2$$

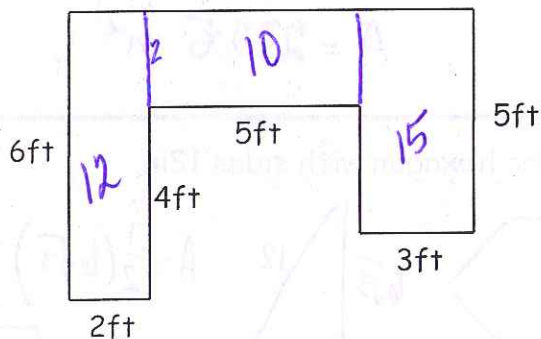
10)



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

$$= 8 \text{ units}^2$$

11) Matt wants to cover the below garden in soil. Before he purchases the soil, he wants to make sure that he can afford it. Home Depot offers bags of top soil for \$5.99 each that cover 10 square feet. If he is only able to afford \$30 worth of supplies, is he able to afford enough top soil to cover the entire garden?



$$\text{Total Area} = 37 \text{ ft.}^2$$

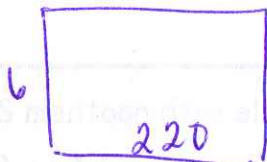
$$\frac{37}{10} = 3.7 \quad 4 \text{ bags of soil}$$

$$4 \times 5.99 = \$23.96 \text{ total cost}$$

Yes he is able to afford the supplies

12) A wooden fence 6 feet high and 220 feet long is to be painted on both sides.

a) What is the total area to be painted?



$$A = 1320 \times 2 = 2,640 \text{ ft.}^2$$

b) A gallon of a certain type of paint will cover only 200 ft<sup>2</sup> of area for the first coat, but on the second coat a gallon of the same paint will cover 300 ft<sup>2</sup>. If the fence is to be given two coats of paint, how many gallons of paint should be bought?

$$2640 \div 200 = 13.2$$

$$2640 \div 300 = 8.8$$

> 22 gallons of paint