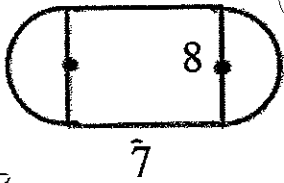


HW Packet - 2D Area

Day 6.3 - Composite Shapes: Break Up + Make Up

Directions: Find the area of the each entire shape shown

1.



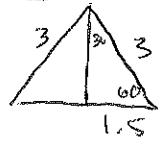
$$7 \cdot 8 = 56$$

$$4 \cdot \frac{7^2}{8} \pi = \frac{16}{8} \pi \approx \frac{50.24}{8} \approx 6.28$$

$$200.96 + 56 =$$

$$\frac{256.96}{106.24} \text{ SQUARES}$$

2.



$$1.5\sqrt{3} \approx 2.598$$

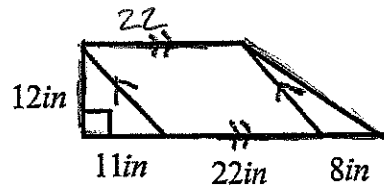
$$\frac{2.598 \cdot 3}{2} = 3.897$$

$$1.5^2 \cdot \pi \approx 7.065$$

$$7.065 + 3.897 = 10.962 \text{ in}^2$$



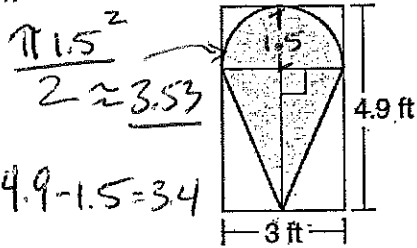
3.



$$\left(\frac{22+31}{2} \right) 12 =$$

$$378 \text{ in}^2$$

4.



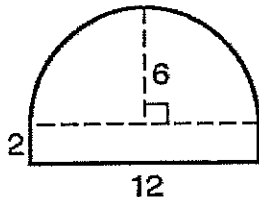
$$\frac{\pi \cdot 1.5^2}{2} \approx 3.53$$

$$4.9 - 1.5 = 3.4$$

$$\frac{3.4 \cdot 3}{2} = 5.1$$

$$3.53 + 5.1 = 8.63 \text{ ft}^2$$

5.

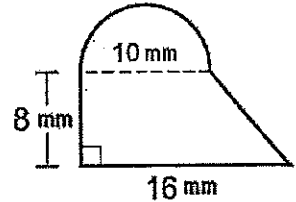


$$\frac{6^2 \pi}{2} \approx 56.52$$

$$2 \cdot 12 = 24$$

$$56.52 + 24 = 80.52$$

6.

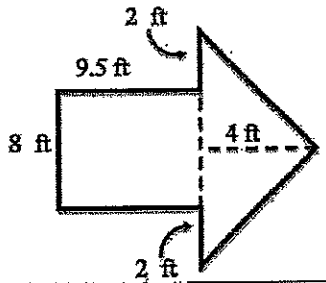


$$\left(\frac{10+16}{2} \right) 8 = 104$$

$$\frac{5^2 \pi}{2} = 39.25$$

$$104 + 39.25 = 143.25 \text{ mm}^2$$

7.

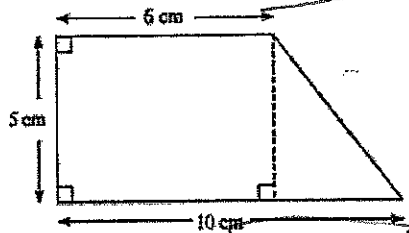


$$9.5 \cdot 8 = 76$$

$$\frac{4 \cdot 12}{2} = 24$$

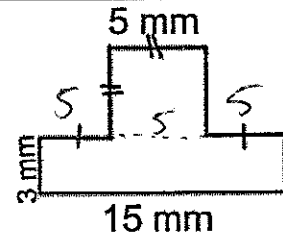
$$100 \text{ ft}^2$$

8.



$$\left(\frac{6+10}{2} \right) 5 = 40 \text{ cm}^2$$

9.

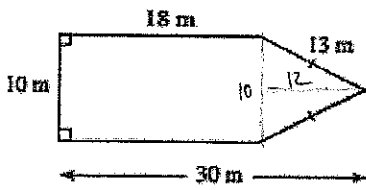


$$5 \cdot 5 = 25$$

$$3 \cdot 15 = 45$$

$$70 \text{ mm}^2$$

10.

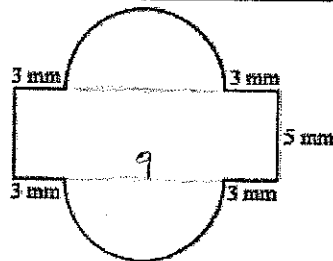


$$18 \cdot 10 = 180$$

$$\frac{10 \cdot 12}{2} = 60$$

$$240 \text{ m}^2$$

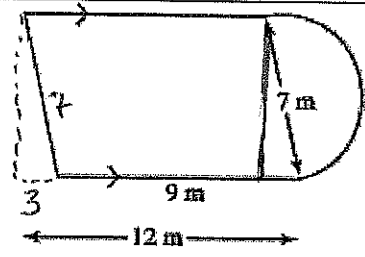
11.



$$5 \cdot 15 = 75$$

$$4.5^2 \cdot \pi \approx 63.585$$

$$138.585 \text{ mm}^2$$



12.

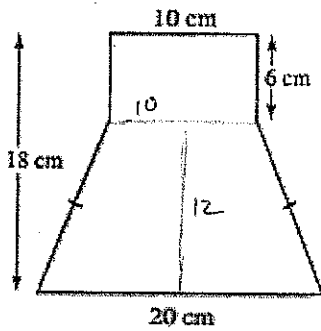
$$3^2 + b^2 = 7^2 \quad b = 6.32$$

$$\frac{3 \cdot 16^2 \pi}{2} \approx \frac{31.35}{2} = 15.675$$

$$\frac{3 \cdot 6.32}{2} = 9.48 \quad 6.195$$

$$6.32 \cdot 9 = 56.88 + 6.195 = 63 \text{ m}^2$$

13.

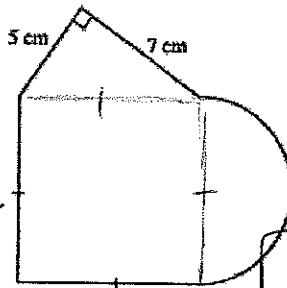


$$\left(\frac{10+20}{2}\right) 12 = 180$$

$$10 \cdot 6 = 60$$

$$240 \text{ cm}^2$$

14.



$$5^2 + 7^2 = c^2$$

$$c \approx 8.6$$

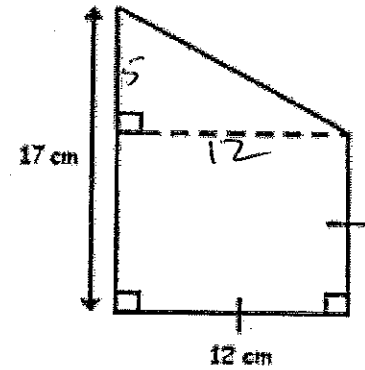
$$\frac{5 \cdot 7}{2} = 17.5$$

$$8.6^2 = 73.96$$

$$4.3^2 \cdot \pi \approx 58.06 = 29.03$$

$$120.49 \text{ cm}^2$$

15.



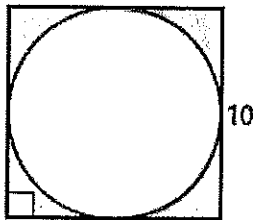
$$\frac{5 \cdot 12}{2} = 30$$

$$12 \cdot 12 = 144$$

$$174 \text{ cm}^2$$

Day 6.4 – Composite Shapes: A Whole – A hole

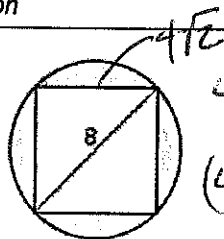
Directions: Find the area of the shaded region



$$10 \cdot 10 = 100$$

$$5^2 \pi \approx 78.5$$

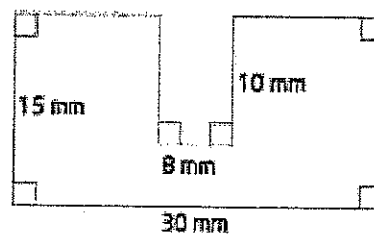
$$21.5 \text{ u}^2$$



$$4^2 \pi \approx 50.24$$

$$(4\sqrt{2})^2 = 32$$

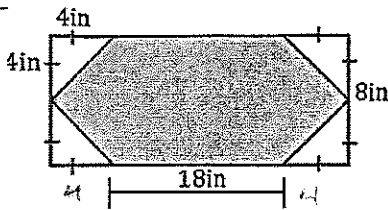
$$18.24 \text{ u}^2$$



$$30 \cdot 15 = 450$$

$$10 \cdot 8 = 80$$

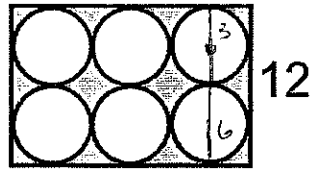
$$370 \text{ mm}^2$$



$$26 \cdot 8 = 208$$

$$\frac{4 \cdot 4}{2} = 8 \cdot 4 = 32$$

$$176 \text{ in}^2$$

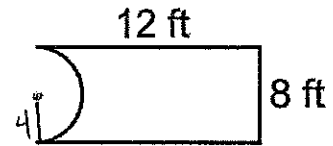


$$18$$

$$12 \cdot 18 = 216$$

$$3^2 \cdot \pi = 28.26 \cdot 6 = 169.56$$

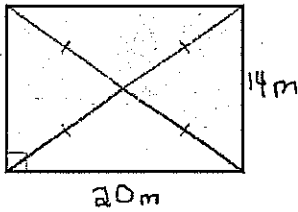
$$216 - 169.56 = 46.44 \text{ in}^2$$



$$12 \cdot 8 = 96$$

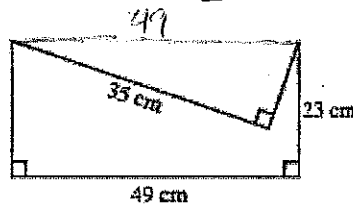
$$\frac{4^2 \pi}{2} = 25.12$$

$$70.88 \text{ ft}^2$$



$$\frac{1}{2} (14 \cdot 20) \cdot \frac{3}{4}$$

$$210 \text{ m}^2$$

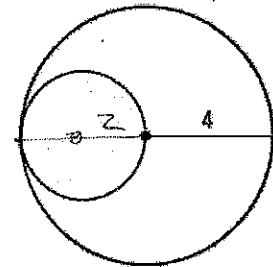


$$35^2 + b^2 = 49^2$$

$$b \approx 34.3$$

$$(23 \cdot 49) - \left(\frac{49 \cdot 34.3}{2} \right) =$$

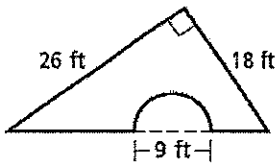
$$286.65 \text{ cm}^2$$



$$4^2 \pi \approx 50.24$$

$$2^2 \pi = 12.56$$

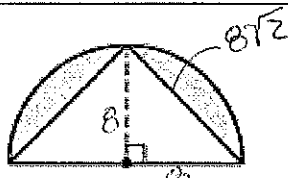
$$37.68 \text{ in}^2$$



$$\frac{26 \cdot 18}{2} = 234$$

$$\frac{4.5^2 \pi}{2} = 31.79$$

$$202.21 \text{ ft}^2$$

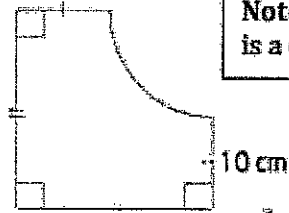


$$16 \text{ cm}$$

$$\frac{8^2 \pi}{2} = 100.48$$

$$\frac{8^2}{2} = \frac{128}{2} = 64$$

$$36.48 \text{ cm}^2$$



Note: the cut-out is a quarter circle

$$\frac{10^2 \pi}{4} = 78.5$$

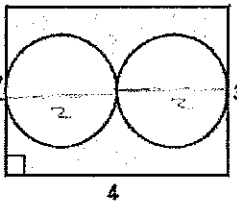
$$20 \cdot 20 = 400$$

$$400 - 78.5 = 321.5 \text{ cm}^2$$

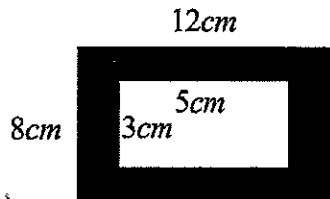
$$3 \cdot 4 = 12$$

$$\pi r^2 = (3 \cdot 4)^2$$

$$12 - 6.28 =$$



$$5.72 \text{ in}^2$$



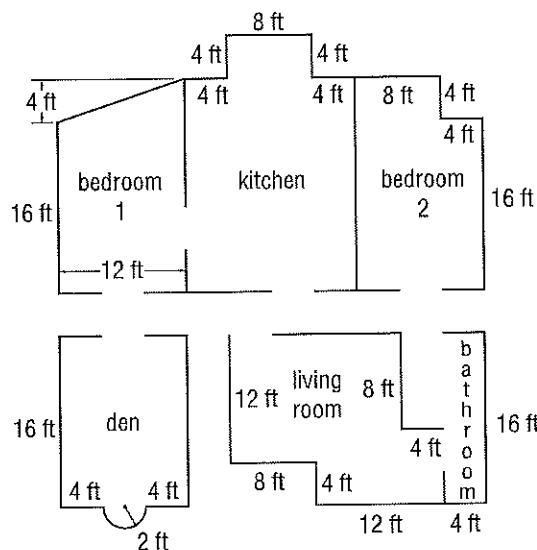
$$(12 \cdot 8) - (5 \cdot 3)$$

$$81 \text{ cm}^2$$

11-6 Word Problem Practice

Area of Composite Figures

ARCHITECTURE For Exercises 1–6 use Jaco’s preliminary design of his vacation house at the right. Round to the nearest tenth if necessary.



<p>1. What type of figure is bedroom 1? Find the area of bedroom 1.</p> <p>TRAPEZOID $\left(\frac{16+20}{2}\right)12$ 216 FT^2</p>	<p>2. What is the area of the bedroom 2? What figures did you use to find the area?</p> <p>$(20 \cdot 12) - (4 \cdot 4)$ 224 FT^2</p>
<p>3. What is the area of the bathroom? What are the dimensions of the figures you used to find this area?</p> <p>$(8 \cdot 8) + (8 \cdot 4)$ 96 FT^2</p>	<p>4. What is the area of the living room? How many figures did you use to find this area?</p> <p>$(20 \cdot 16) - (8 \cdot 4) - (8 \cdot 4)$ 256 FT^2</p>
<p>5. What is the area of the den? What would the area of the den be if the semicircular window were removed and replaced with a flat window?</p> <p>$(16 \cdot 12) + (2^2 \pi) = 204.56 \text{ ft}^2$ $\text{w/out window } (16 \cdot 12) = 192 \text{ ft}^2$</p>	<p>6. What is the area of the kitchen? If Jaco adds a rectangular cooking island in the middle of the kitchen with dimensions 6 feet by 4 feet, how many square feet of space will be left?</p> <p>$(20 \cdot 16) - (6 \cdot 4) = 352 \text{ FT}^2$ $352 - (6 \cdot 4) = 328 \text{ FT}^2$</p>

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Lesson 11-6