

Name:

Date:

Topic:

Class:

Main Ideas/Questions

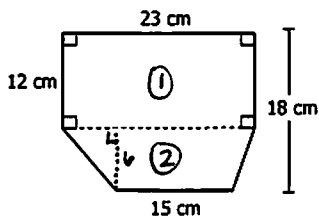
COMPOSITE FIGURES

Notes

- A composite figure is a figure that can be Separated into regions that are basic plane figures. (Like triangles, parallelograms, trapezoids, rectangles, circles etc.)
- To find the area of a composite figure, divide up the regions and find each area, then find the Sum of the areas.

Directions: Find the area of each figure below. Round to the nearest hundredth when necessary.

1.

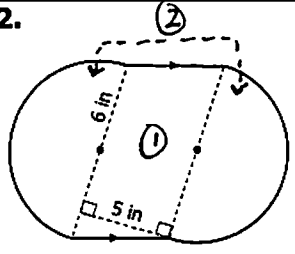


$A_1 = 12(23)$
 $= 276$

$A_2 = \frac{1}{2} (23 + 15) 6$
 $= 114$

$A = 276 + 114 = \boxed{390 \text{ cm}^2}$

2.

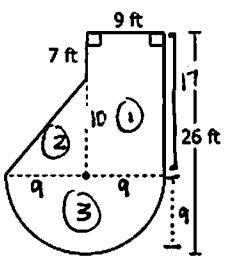


$A_1 = 12(5)$
 $= 60$

$A_2 = \pi (6)^2$
 $= 113.1$

$A = 60 + 113.1 = \boxed{173.1 \text{ in}^2}$

3.



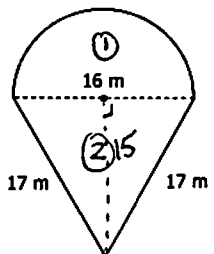
$A_1 = 17(9)$
 $= 153$

$A_2 = \frac{1}{2} (9)(10)$
 $= 45$

$A_3 = \frac{1}{2} \pi (9)^2$
 $= 127.23$

$A = 153 + 45 + 127.23 = \boxed{325.23 \text{ ft}^2}$

4.



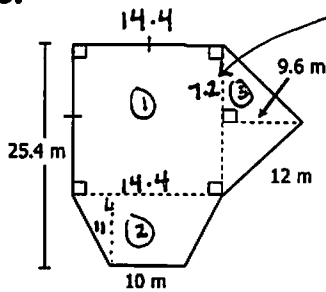
$A_1 = \frac{1}{2} \pi (8)^2$
 $= 100.53$

$A_2 = \frac{1}{2} (16)(15)$
 $= 120$

$h^2 + 8^2 = 17^2$
 $h^2 = 225$
 $h = 15$

$A = 100.53 + 120 = \boxed{220.53 \text{ m}^2}$

5.



$$x^2 + 9.6^2 = 12^2$$

$$x^2 = 51.84$$

$$x = 7.2$$

$$A_1 = (14.4)^2 \\ = 207.36$$

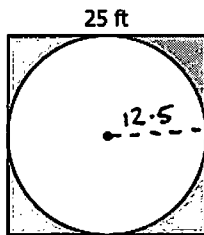
$$A_2 = \frac{1}{2} (11)(14.4 + 10) \quad A_3 = \frac{1}{2} (7.2)(9.6) \\ = 134.2 \quad = 69.12$$

$$A = 207.36 + 134.2 + 69.12 = \boxed{410.68 \text{ m}^2}$$

SHADED REGIONS

To find the area of a shaded region, find the area of the entire figure, then subtract the area of the non-shaded regions.

6.

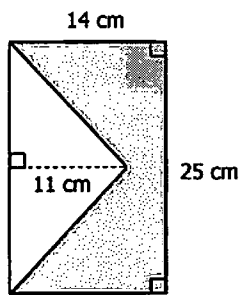


$$A_{\square} = (25)^2 = 625$$

$$A_{\circ} = \pi (12.5)^2 = 490.87$$

$$A = 625 - 490.87 = \boxed{134.13 \text{ ft}^2}$$

7.

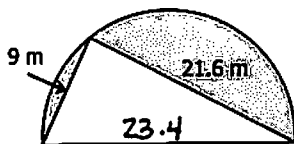


$$A_{\square} = 14(25) = 350$$

$$A_{\Delta} = \frac{1}{2} (25)(11) = 137.5$$

$$A = 350 - 137.5 = \boxed{212.5 \text{ cm}^2}$$

8.



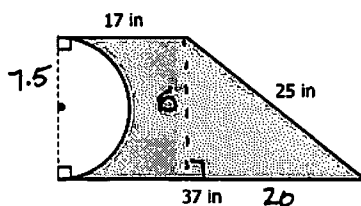
$$A_{\Delta} = \frac{1}{2} \pi (11.7)^2 = 215.03$$

$$A_{\Delta} = \frac{1}{2} (9)(21.6) = 97.2$$

$$9^2 + 21.6^2 = x^2 \\ 547.56 = x^2 \\ 23.4 = x$$

$$A = 215.03 - 97.2 = \boxed{117.83 \text{ m}^2}$$

9.



$$x^2 + 20^2 = 25^2$$

$$x^2 = 225$$

$$x = 15$$

$$A_{\square} = \frac{1}{2} (15)(17 + 37) = 405$$

$$A_{\Delta} = \frac{1}{2} \pi (7.5)^2 = 88.36$$

$$A = 405 - 88.36 = \boxed{316.64 \text{ in}^2}$$

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Unit 11: Volume & Surface Area

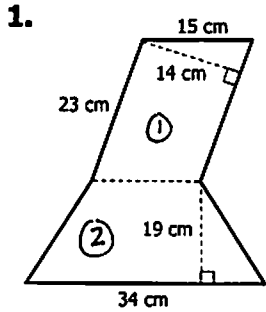


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Homework 3: Area of Composite Figures

**** This is a 2-page document! ****

Directions: Find the area of each figure. Round to the nearest hundredth where necessary.



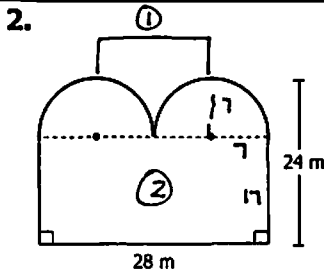
$$A_1 = 14(23)$$

$$= 322$$

$$A_2 = \frac{1}{2}(19)(15+34)$$

$$= 465.5$$

$$A = 322 + 465.5 = \boxed{787.5 \text{ cm}^2}$$



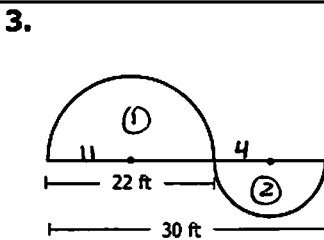
$$A_1 = \pi(7)^2$$

$$= 153.94$$

$$A = 17(28)$$

$$= 476$$

$$A = 153.94 + 476 = \boxed{629.94 \text{ m}^2}$$



$$A_1 = \frac{1}{2}\pi(11)^2$$

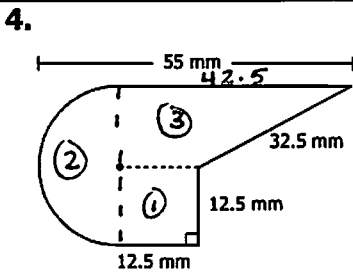
$$= 190.07$$

$$A_2 = \frac{1}{2}\pi(4)^2$$

$$= 23.13$$

$$A = 190.07 + 23.13$$

$$= \boxed{215.2 \text{ ft}^2}$$



$$A_1 = (12.5)^2$$

$$= 156.25$$

$$A_2 = \frac{1}{2}\pi(12.5)^2$$

$$= 245.44$$

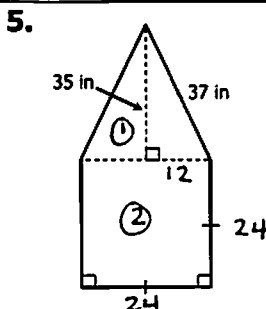
$$A_3 = \frac{1}{2}(12.5)(12.5+42.5)$$

$$= 343.75$$

$$A = 156.25 + 245.44$$

$$+ 343.75$$

$$= \boxed{745.44 \text{ mm}^2}$$



$$x^2 + 35^2 = 37^2$$

$$x^2 = 144$$

$$x = 12$$

$$A_1 = \frac{1}{2}(35)(24)$$

$$= 240$$

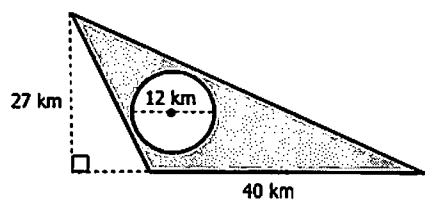
$$A_2 = (24)^2$$

$$= 576$$

$$A = 240 + 576 = \boxed{996 \text{ in}^2}$$

Directions: Find the area of the shaded region. Round to the nearest hundredth where necessary.

6.



$$A_{\Delta} = \frac{1}{2}(40)(27)$$

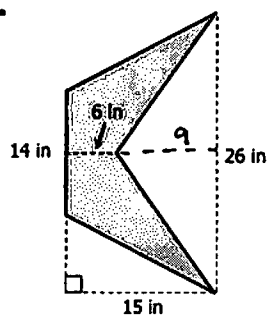
$$= 540$$

$$A_{\circ} = \pi(6)^2$$

$$= 113.1$$

$$A = 540 - 113.1 = \boxed{426.9 \text{ km}^2}$$

7.



$$A_{\Delta} = \frac{1}{2}(15)(26 + 14)$$

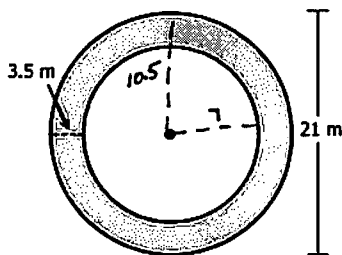
$$= 300$$

$$A_{\Delta} = \frac{1}{2}(26)(9)$$

$$= 117$$

$$A = 300 - 117 = \boxed{183 \text{ in}^2}$$

8.



$$A_{\text{out}} = \pi(10.5)^2$$

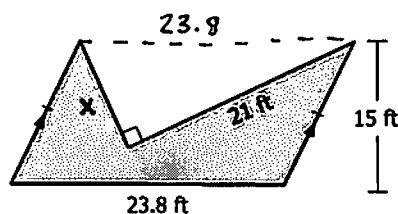
$$= 346.36$$

$$A_{\text{in}} = \pi(7)^2$$

$$= 153.94$$

$$A = 346.36 - 153.94 = \boxed{192.42 \text{ m}^2}$$

9.



$$x^2 + 21^2 = 23.8^2$$

$$x^2 = 125.44$$

$$x = 11.2$$

$$A_{\Delta} = 23.8(15)$$

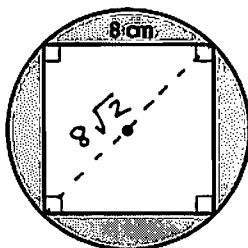
$$= 357$$

$$A_{\Delta} = \frac{1}{2}(21)(11.2)$$

$$= 117.6$$

$$A = 357 - 117.6 = \boxed{239.4 \text{ ft}^2}$$

10.



$$A_{\circ} = \pi(4\sqrt{2})^2$$

$$= 100.53$$

$$A_{\square} = 8^2$$

$$= 64$$

$$A = 100.53 - 64 = \boxed{36.53 \text{ cm}^2}$$