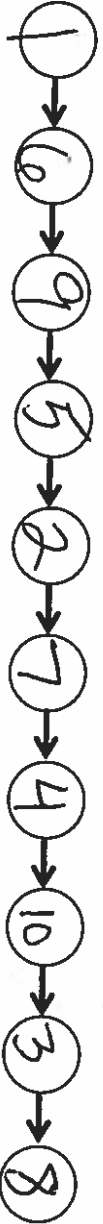


Name Kary
 Class Period _____

Solving Composite Area

Using various area formulas, answer the following questions to work your way through the "maze".
 In problems using circles, leave answers in terms of π .
 Complete the bubbles below with the order in which you work the problems, beginning with 1. Show your work! ☺



1 Find the area of the shaded region.

a) $45\pi \text{ in}^2$ go to station 5
 b) $\frac{45}{2}\pi \text{ in}^2$ go to station 6
 c) $39\pi \text{ in}^2$ go to station 2
 d) $\frac{49}{2}\pi \text{ in}^2$ go to station 8

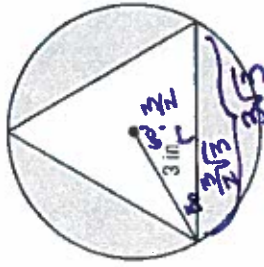
2 Find the area of the shaded region.

a) $144\pi \text{ cm}^2$ go to station 6
 b) $36\pi \text{ cm}^2$ go to station 4
 c) $54\pi \text{ cm}^2$ go to station 1
 d) $18\pi \text{ cm}^2$ go to station 7
 e) $72\pi \text{ cm}^2$ go to station 10

Handwritten note: $36\pi \times \frac{1}{2} = 18\pi$

3

Find the area of the shaded region.



- a) 28.27 in² go to station 2
- b) 11.69 in² go to station 10
- c) 16.58 in² go to station 8
- d) 26.33 in² go to station 7
- e) 7.16 in² go to station 5

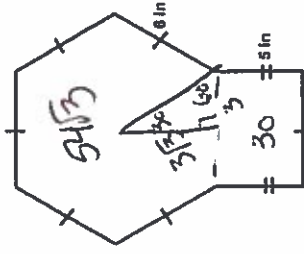
$$9\pi - \frac{3(9\sqrt{3})}{2}$$

$$9\pi - \frac{27\sqrt{3}}{2}$$

$$16.58$$

4

Find the area of the region.



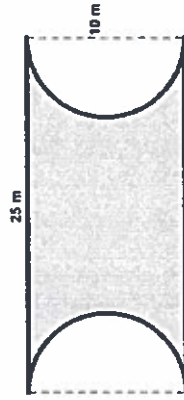
- a) 186 in² go to station 9
- b) 93.53 in² go to station 7
- c) 30 in² go to station 1
- d) 123.53 in² go to station 10
- e) 648 in² go to station 6

$$30 + 54\sqrt{3} \text{ in}^2$$

$$\frac{3\sqrt{3}(36)}{2} = 54\sqrt{3}$$

5

Find the area of the shaded region.



- a) 250 - 25\pi m² go to station 2
- b) 250 - 10\pi m² go to station 7
- c) 250 - 100\pi m² go to station 4
- d) 250 + 25\pi m² go to station 3
- e) 250 - 20\pi m² go to station 8

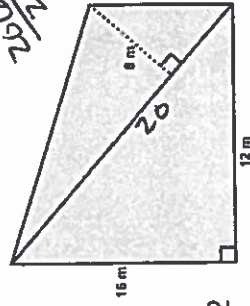
$$10(25) - \pi(5^2)$$

$$250 - 25\pi$$

$$\approx 171.44$$

6

Find the area of the shaded region.



- a) 220 m² go to station 2
- b) 176 m² go to station 9
- c) 704 m² go to station 8
- d) 192 m² go to station 10
- e) 102 m² go to station 4

$$16^2 + 12^2 = c^2 \quad c = 20$$

$$\frac{16(12)}{2} = 96$$

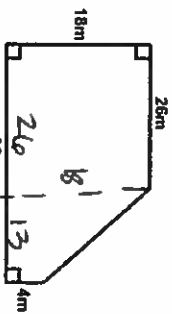
$$176m^2 = 96 + 80$$

7

Find the area of the region.

- a) 791 m²
- b) 468 m²
- c) 611 m²
- d) 585 m²
- e) 511 m²

- go to station 1
- go to station 2
- go to station 4
- go to station 9
- go to station 10



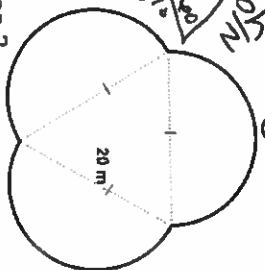
$18 \times 26 = 468$
 $\frac{(4+26) \times 8}{2} = 143$
 $468 + 143 = 611$

8

Find the area of the region.

- a) $100\sqrt{3} + 50\pi \text{ m}^2$
- b) $100 + 150\pi \text{ m}^2$
- c) $100\sqrt{3} + 100\pi \text{ m}^2$
- d) $100\sqrt{3} + 150\pi \text{ m}^2$
- e) $10\sqrt{3} + 150\pi \text{ m}^2$

- go to station 2
- go to station 5
- go to station 7
- go to station 1
- go to station 9



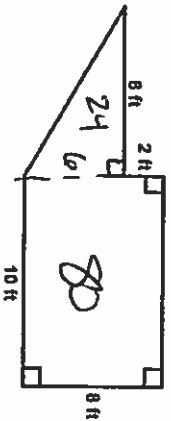
1.5 circles
 $= 1.5 \pi (10^2)$
 150π
 $+ 100\sqrt{3}$

9

Find the area of the region.

- a) 104 ft²
- b) 112 ft²
- c) 209 ft²
- d) 128 ft²
- e) 168 ft²

- go to station 5
- go to station 8
- go to station 1
- go to station 6
- go to station 7

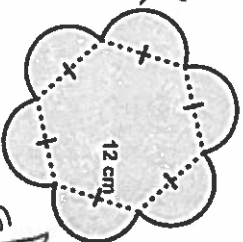


10

Find the area of the shaded region.

- a) 388.46 cm²
- b) 526.35 cm²
- c) 713.41 cm²
- d) 786.58 cm²
- e) 865.65 cm²

- go to station 6
- go to station 2
- go to station 3
- go to station 4
- go to station 1



$3 \times \frac{1}{2} \times 12 \times 10 = 180$
 $6 \times \frac{1}{2} \times 12 \times 10 = 360$
 $360 + 180 = 540$
 $540 - 180 = 360$
 $360 + 353.41 = 713.41$

