

12-3-18

Aim: SWBAT use radical operations to find the area and perimeter of geometric shapes.

HW: Packet Pages 22-23

Review due tomorrow

Test Wednesday

Do Now: Packet Page 20

Homework:

1) $8\sqrt{3} - 5\sqrt{3} + 2\sqrt{3}$

$5\sqrt{3}$

2) $2\sqrt{3} + \sqrt{5}$

$2\sqrt{3} + \sqrt{5}$

3) $5\sqrt{3} + \sqrt{27}$

$5\sqrt{3} + 3\sqrt{3}$

$8\sqrt{3}$

4) $\sqrt{18} - \sqrt{8} + 2\sqrt{3}$

$3\sqrt{2} - 2\sqrt{2} + 2\sqrt{3}$

$\sqrt{2} + 2\sqrt{3}$

5) $3\sqrt{2}(\sqrt{2}-1)$

$3 \cdot \sqrt{2}^2 - 3\sqrt{2}$

$3 \cdot 2 - 3\sqrt{2}$

$6 - 3\sqrt{2}$

6) If $3\sqrt{18}$ is subtracted from $\sqrt{8}$?

$\sqrt{8} - 3\sqrt{18}$

$2\sqrt{2} - 3 \cdot 3\sqrt{2}$

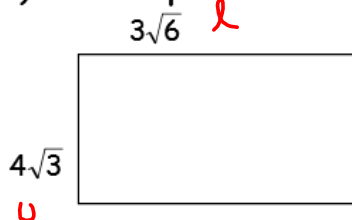
$2\sqrt{2} - 9\sqrt{2}$

$-7\sqrt{2}$

7) $8\sqrt{x} + \sqrt{x}$

$9\sqrt{x}$

8) Find the perimeter:



$P = 2l + 2w$

$P = 2(3\sqrt{6}) + 2(4\sqrt{3})$

$P = 6\sqrt{6} + 8\sqrt{3}$ units

AIM: SWBAT find the area & perimeter of geometric shapes.

DO NOW:

Find each sum or difference.

1) $9\sqrt{x} + 3\sqrt{x}$
 $12\sqrt{x}$

2) $\sqrt{80} - \sqrt{5}$ $4\sqrt{5} - \sqrt{5}$
 $3\sqrt{5}$

3) $\sqrt{12} - \sqrt{48} + \sqrt{3}$
 $2\sqrt{3} - 4\sqrt{3} + 1\sqrt{3}$
 $-\sqrt{3}$

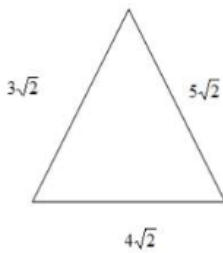
4) $\sqrt{100} - \sqrt{64} + \sqrt{9}$
 $10 - 8 + 3$
 5

CLASSWORK:

Perimeter is the distance around the outside of a polygon. You find perimeter by adding up all the sides of a polygon.

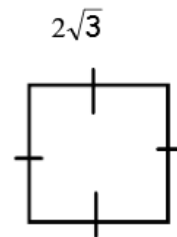
Find the perimeter of each polygon. Show all work step-by-step.

1)



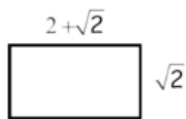
$P = s_1 + s_2 + s_3$
 $P = 3\sqrt{2} + 5\sqrt{2} + 4\sqrt{2}$
 $P = 12\sqrt{2}$ units

2)



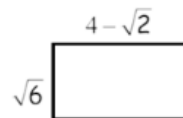
$P = 4s$
 $P = 4(2\sqrt{3})$
 $P = 8\sqrt{3}$ units

3)



$P = 2l + 2w$
 $P = 2(2 + \sqrt{2}) + 2 \cdot \sqrt{2}$
 $P = 4 + 2\sqrt{2} + 2\sqrt{2}$
 $P = 4 + 4\sqrt{2}$ units

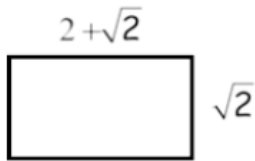
4)



$P = 2l + 2w$
 $P = 2(4 - \sqrt{2}) + 2\sqrt{6}$
 $P = 8 - 2\sqrt{2} + 2\sqrt{6}$ units

Find the area of the following polygons:

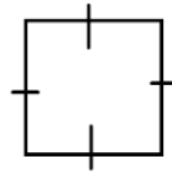
5)



$$A = lw$$

$$A = \sqrt{2}(2 + \sqrt{2})$$

$$A = 2\sqrt{2} + 2 \text{ units}^2$$

6) $2\sqrt{3}$ 

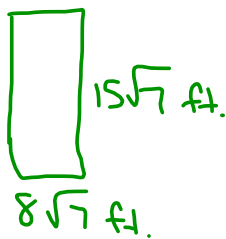
$$A = s^2$$

$$A = (2\sqrt{3})^2$$

$$A = 4 \cdot 3$$

$$A = 12 \text{ units}^2$$

7) Maggie is building rectangular dog run. She has determined the length will be $8\sqrt{7}$ feet and the width will be $15\sqrt{7}$ feet. Write an expression that Maggie can use to calculate how much fencing she needs for the perimeter of the dog run. (Draw a diagram)



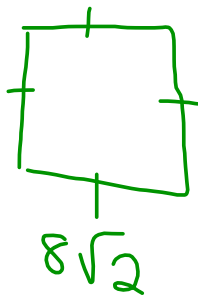
$$P = 2l + 2w$$

$$P = 2(8\sqrt{7}) + 2(15\sqrt{7})$$

$$P = 16\sqrt{7} + 30\sqrt{7}$$

$$P = 46\sqrt{7} \text{ ft.}$$

8) Danielle is making a piece a modern art. She wants to paint a violet stripe around the edge of the square canvas. The edge of the canvas can be represented by $8\sqrt{2}$. What is the perimeter of Danielle's canvas? (Draw a diagram)



$$P = 4s$$

$$P = 4 \cdot 8\sqrt{2}$$

$$P = 32\sqrt{2} \text{ units}$$

HOMEWORK - PERIMETER & AREA

- 1) Simplify the following expression: $3\sqrt{8} + 5\sqrt{2} - \sqrt{32}$

- 2) Simplify: $\sqrt{48} - \sqrt{12} + \sqrt{300}$

- 3) Find the **sum** of $(4\sqrt{3})$ and $(-2\sqrt{27})$

- 4) Find the perimeter of a **rectangle** if the length is $(8\sqrt{72})$ and the width is $(2\sqrt{20})$

- 5) Find the perimeter of an **equilateral triangle** if each side is $6\sqrt{5}$.

- 6) Find the **perimeter** of an **isosceles** triangle if the base measures $3\sqrt{45}$ and each of the other sides measures $\sqrt{5}$.

7) Find the **perimeter** of a **square** that has a side length of $4\sqrt{3}$.

8) Find the **area** of a **square** that has a side length of $4\sqrt{3}$.

9) **SUBTRACT** $(-3\sqrt{24x})$ **FROM** $(6\sqrt{6x})$