Name:_____Number:_____Period:_____Date:_____

KEY **Unit 12 Study Guide**

Square Roots

These questions are about two different squares.

1. A square has a side length of 36 units. What is the area of the square?

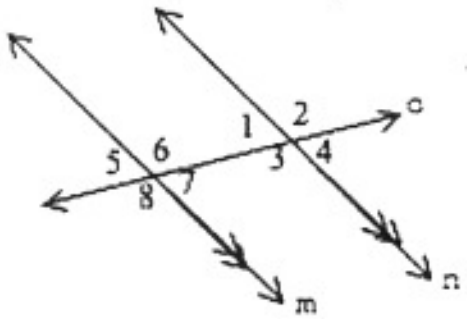
1296 u^2

2. A different square has an area of 36 square units. What is the side length of this square?

6 units

Angles

Use the image at right for 3 – 5.



3.) ∠6 and ∠3 are _____ angles.

A. Supplementary
B. Parallel
C. Alternate Interior
D. Corresponding
E. None of these

4.) ∠5 and ∠8 are _____ angles.

A. Corresponding
B. Vertical
C. Right
D. Supplementary
E. None of these

5.) ∠6 and ∠8 are _____ angles.

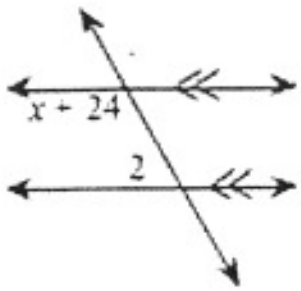
A. Corresponding
B. Vertical
C. Right
D. Supplementary
E. None of these

6.) Find the value of *x* in the diagram at right.

$x + 24 + 2 = 180$

$x + 26 = 180$

$x = 154°$



Pythagorean Theorem

7.) Determine whether the following numbers could be the sides of a right triangle. Show your work.

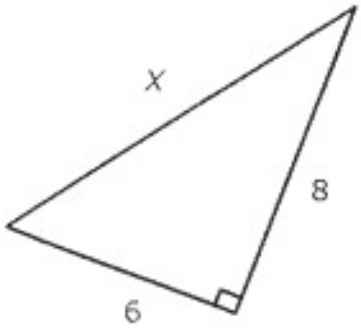
6, 10, 12

$6^2 + 10^2 = 12^2$

$36 + 100 \neq 144$

NO.

8.) Solve for x in the triangle.



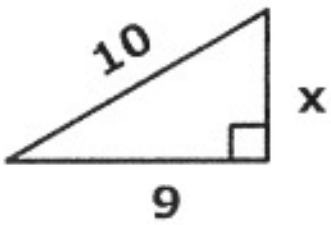
$6^2 + 8^2 = x^2$

$36 + 64 = x^2$

$100 = x^2$

$10 = x$

9.) Find the leg of the right triangle. Show your work.



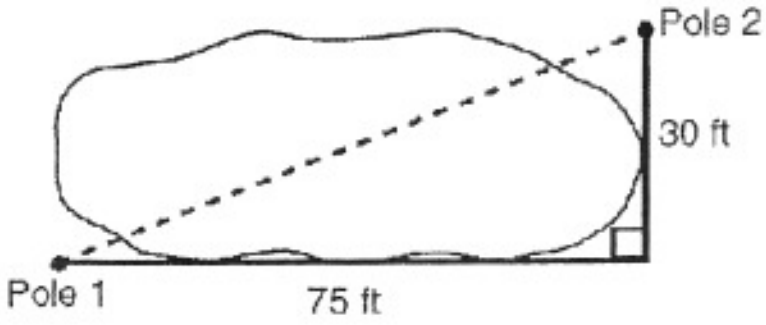
$10^2 = x^2 + 9^2$

$100 = x^2 + 81$

$19 = x^2$

$\sqrt{19} = x \approx 4.36$

10.) Find the missing side:



$30^2 + 75^2 = x^2$

$\sqrt{6525} = x$

≈ 80.78 ft

Exponent Review

Simply each.

11). $2x^4(x^5)$

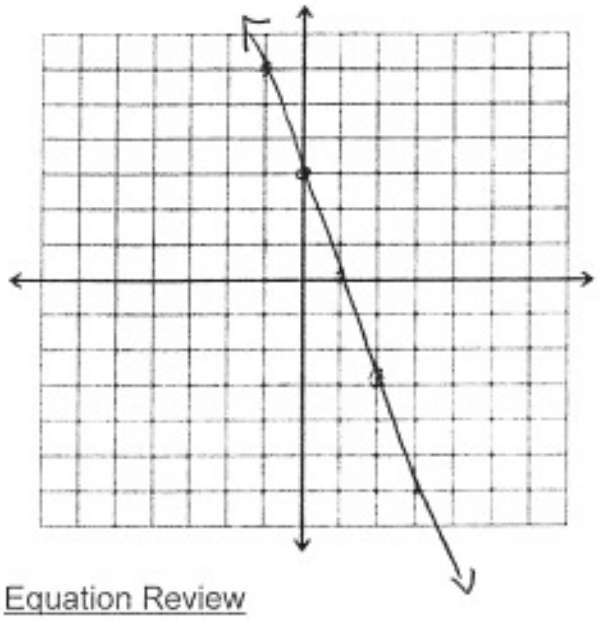
$2x^9$

12). $\frac{10x^6}{2x^3}$

$5x^3$

Graphing Review

13.) Graph $y = -3x + 3$



Equation Review

14.) $2 - 3x - 3 = -2(3x - 1)$

$-1 - 3x = -6x + 2$

$+6x \quad +6x$

$-1 + 3x = 2$

$+1 \quad +1$

$3x = 3$

$\boxed{x = 1}$

15.) $\left(\frac{x}{5} + \frac{1}{2} = 2x + 1\right)10$

$\frac{10x}{5} + \frac{10}{2} = 20x + 10$

$2x + 5 = 20x + 10$

$-2x \quad -5 \quad -2x \quad -5$

$0 = 18x + 5$

$-5 \quad -5$

$\frac{18x}{18} = \frac{-5}{18}$

$\boxed{x = -5/18 = -.27}$

System of Equations Review

16.) Where do the lines listed below intersect? Show your work

$Y = 5x - 2$

$Y = 6x - 5$

$5x - 2 = 6x - 5$

$-5x \quad +5 \quad -5x \quad +5$

$3 = x$

$5(3) - 2 = y$

$15 - 2 = y$

$13 = y$

$\boxed{3, 13}$