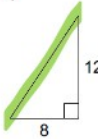


Warm - up

1) $a^2 + b^2 = c^2$

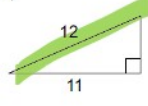


$$12^2 + 8^2 = c^2$$

$$144 + 64 = c^2$$

$$208 = c^2 \quad \boxed{14.4^2 = c}$$

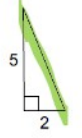
2) $A^2 + 11^2 = 12^2$



$$A^2 + 121 = 144$$

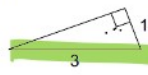
$$ - 121 \quad \underline{-121}$$

3) $5^2 + 2^2 = c^2$



$$25 + 4 = \sqrt{29} = 5.38$$

4) $a^2 + b^2 = c^2$



$$1^2 + b^2 = 3^2$$

$$1 + b^2 = 9$$

$$ - 1 \quad \underline{-1}$$

$$b^2 = 8$$

$$b = \sqrt{8} = 2.83$$

5) $a = 8, b = 6, c = ?$

6) $a = 5, b = ?, c = 8$

$$a^2 + b^2 = c^2$$

$$8^2 + 6^2 = c^2$$

$$64 + 36 = c^2$$

$$c^2 = 100 \quad \boxed{C=10}$$

$$8^2 - 5^2$$

$$A^2 + B^2 = c^2$$

$$5^2 + 0^2 = 8^2$$

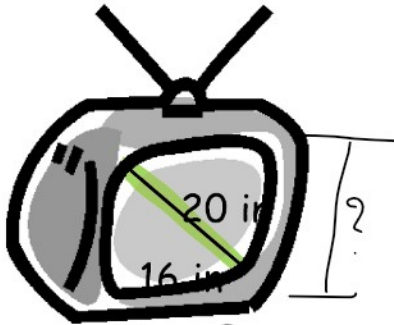
$$25 + B^2 = 64$$

$$ - 25 \quad \underline{-25}$$

$$B^2 = 39$$

$$B = \sqrt{39} = 6.24$$

16. How high is the TV screen?



$$a^2 + b^2 = c^2$$

$$16^2 + b^2 = 20^2$$

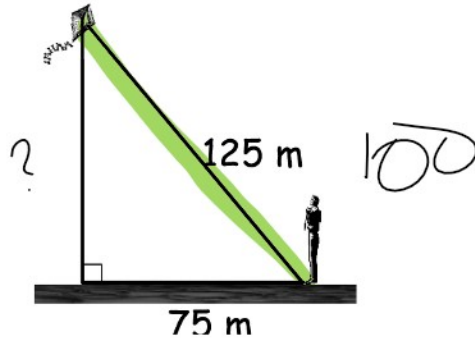
$$256 + b^2 = 400$$

$$ - 256 \quad \underline{-256}$$

$$0 + b^2 = 144$$

$$\boxed{b = 12}$$

17. How far above the ground is the kite?

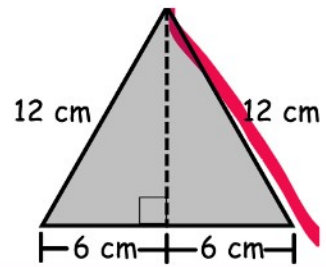
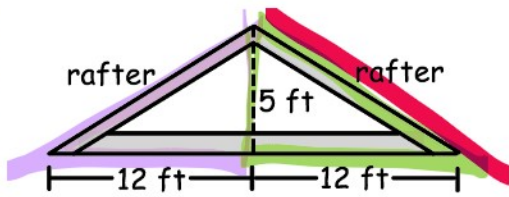


18. How long is each rafter?



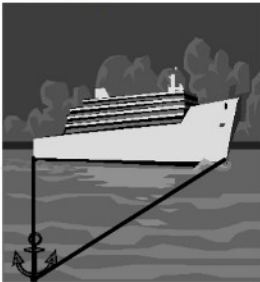
19. What is the altitude of the equilateral triangle?





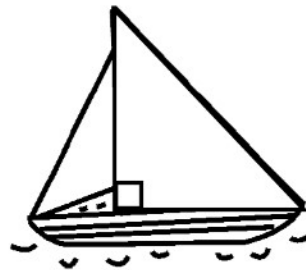
13 ft

20. The anchor of a boat is 60 ft. right below its stern. The distance from the anchor to the bow of the boat is 61 feet. What is the length of the deck from bow to stern?

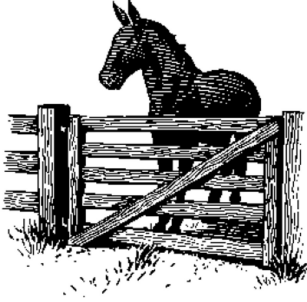


$$a^2 + b^2 = c^2$$

21. One end of a rope is attached to the top of a sailboat mast. It is drawn tightly and attached 9 feet from the base of the mast. The rope is 41 feet long. How high is the mast?



22. The diagonal brace on a gate is 2 meters long. The height of the gate is 1 meter. How wide is the gate?



23. Lucas walked 62 yards due north, then 30 yards due east. How far is Lucas from his starting point?



Module 2 - Study Guide Name _____ ID: 1
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Laws of Exponent And Pythagorean Date _____ Period ____

Simplify. Your answer should contain only positive exponents.

1) $5a^4 \cdot 4a^4 \cdot 2a^2$

2) $6m \cdot 3m$

3) $2n \cdot 6n^2$

4) $\frac{2m^4}{3m^2}$

5) $\frac{8p^4}{4p^3}$

6) $\frac{8n^3}{8n}$

7) $5b^3 \cdot 7b$

8) $5b^2 \cdot 5b$

9) $7b^2 \cdot 8b^3$

10) v^{-1}

11) $6n^{-3} = \frac{6}{n^3}$

12) $2r^{-4} = \frac{2}{r^4}$

Laws of Exponent And Pythagorean

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $\frac{5a^4 \cdot 4a^4 \cdot 2a^2}{40a^{10}}$

2) $\frac{6m \cdot 3m}{18m^2}$

3) $\frac{2n \cdot 6n^2}{12n^3}$

4) $\frac{\frac{2m^4}{3m^2}}{\frac{2m^2}{3}}$

5) $\frac{\frac{8p^4}{4p^3}}{2p}$

6) $\frac{\frac{8n^3}{8n}}{n^2}$

7) $\frac{5b^3 \cdot 7b}{35b^4}$

8) $\frac{5b^2 \cdot 5b}{25b^3}$

9) $\frac{7b^2 \cdot 8b^3}{56b^5}$

10) $\frac{v^{-1}}{\frac{1}{v}}$

11) $\frac{6n^{-3}}{\frac{6}{n^3}}$

12) $\frac{2r^{-4}}{\frac{2}{r^4}}$

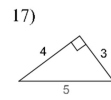
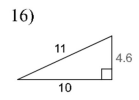
13) $\frac{(v^2)^3}{v^6}$

14) $\frac{(8x^3)^4}{4096x^{12}}$

15) $\frac{(7n^2)^4}{2401n^8}$

Find each missing length to the nearest tenth.

Find each missing length to the nearest tenth.



19) $a = 9$, $b = ?$, $c = 14$
10.7

20) $a = 3$, $b = ?$, $c = 6$
5.2