

1. In general, we state that if $x^n = a$, then x is called an _____ of a .
2. Evaluate, if possible. If the result is not a real number, state: Not a real number.

a. $\sqrt{49}$

b. $\sqrt[3]{-125}$

c. $\sqrt[5]{64}$

d. $\sqrt{25}$

e. $\sqrt{-25}$

f. $-\sqrt{25}$

g. $\sqrt[3]{27}$

h. $\sqrt[3]{-27}$

i. $-\sqrt[3]{27}$

j. $\sqrt[4]{16}$

k. $\sqrt[4]{-16}$

l. $-\sqrt[4]{16}$

m. $\sqrt[5]{32}$

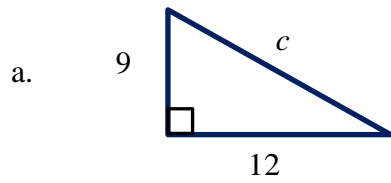
n. $\sqrt[5]{-32}$

o. $-\sqrt[5]{32}$

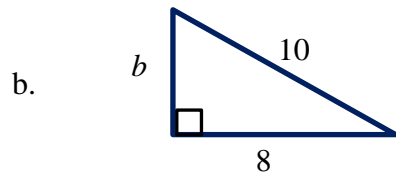
3. The time, in seconds, that it takes for an object to fall, from rest, is given by $t = \frac{1}{4}\sqrt{d}$, in which d is the distance fallen in feet. Show your work and round to the nearest hundredth second.
 - a. Find the time required for an object to fall to the ground from a building that is 540 feet high. Interpret your results with a complete sentence.
 - b. Find the time required for an object to fall to the ground from a building that is 660 feet high. Interpret your results with a complete sentence.

4. State the **Pythagorean Theorem**: _____

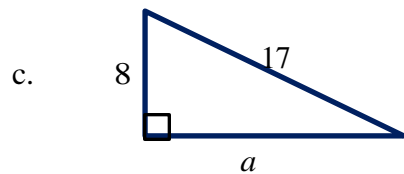
5. Find the missing length in the following right triangles using the Pythagorean Theorem. Express your answer in radical form where appropriate.



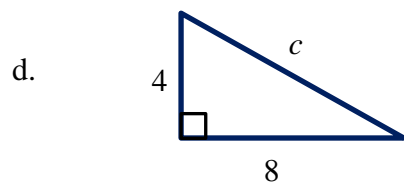
$$c = \underline{\hspace{2cm}}$$



$$b = \underline{\hspace{2cm}}$$



$$a = \underline{\hspace{2cm}}$$



$$c = \underline{\hspace{2cm}}$$