

Advanced 7th Grade - Unit 4 Review

Include your formulas (work) and units. Use 3.14 for pi.

1. Evaluate the expression; Answers should not include exponents.

a. $\left(\frac{1}{3}\right)^3$

d. $\frac{1}{2}(7^2 + 3)$

g. $(-2 + 3)^2$

b. $(-4)^2$

e. -2^4

h. $(2x)^0$

c. $\frac{3}{4^2} + \frac{5}{2^3}$

f. $9^2 - 6^3$

i. $(2p)^{-3}$

2. Simplify the expression; Answers can include positive exponents.

a. $\left(\frac{a}{b}\right)^3$

d. $(a^5b)^3$

g. $(x + x)^3$

b. $\frac{(4a)^6}{a^2}$

e. $-g^6$

h. $8x^0$

c. $\frac{3^2x^4}{27x}$

f. $a^2 \cdot a^7$

i. $(4h)^{-2}$

3. Write the number in scientific form.

a. 1,234,500

c. 98,000,000

e. 0.0000009

b. 7.0040

d. 0.00067

f. 605,000

4. Write the number in standard form.

a. 3.476×10^5

c. 4.06×10^9

e. 6.7×10^{-6}

b. 1.2×10^{-3}

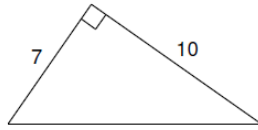
d. 8×10^{10}

f. 5.55×10^{-1}

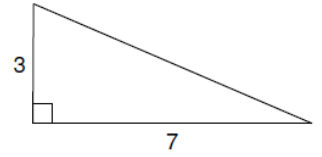
5. State the Pythagorean Theorem.

6. Find the missing length in the right triangles.

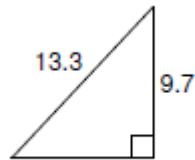
a. _____



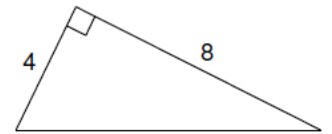
d. _____



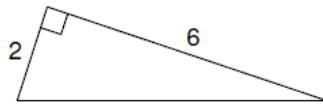
b. _____



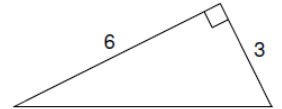
e. _____



c. _____

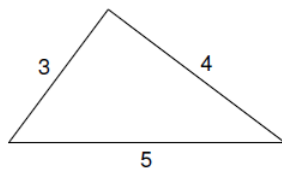


f. _____

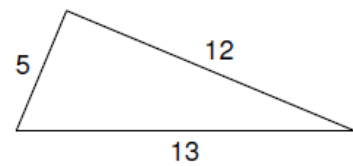


7. Prove whether the triangles below are in fact right triangles.

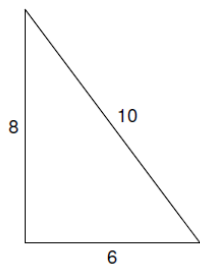
a. _____



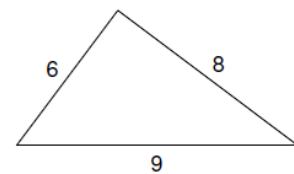
c. _____



b. _____



d. _____



Name _____ Hour _____ Date _____

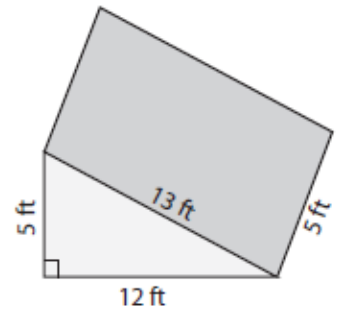
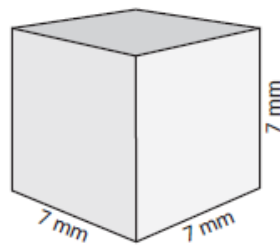
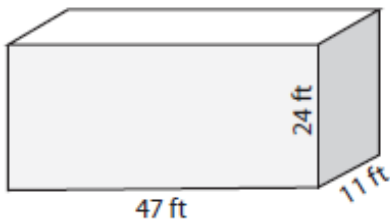
8. Compare and contrast irrational and rational numbers. Give **3** examples of each type of real number.

9. Find the surface area and the volume of the figures below.

a. _____

b. _____

c. _____



10. If you double the height of question (a) above, what happens to the volume and surface area of the prism?