

Indicators

Objective:

5.04 Solve equations using the inverse relationships of addition and subtraction, multiplication and division, squares and square roots, and cubes and cube roots.

Vocabulary and Resources		
area	Pythagorean theorem	multiplicative inverse
volume	additive inverse	radical expression

A. A group of students is decorating for the school dance. They plan on attaching thirty-five crepe paper streamers to the top of a 4-foot pole and securing them to the floor at a distance of 3 feet from the base of the pole to form a circle. What should be the length of each of the streamers that they cut for this project? If there are 9 yards of crepe paper per roll, how many rolls of crepe paper will they need to purchase for this project?

B. For each of the following, solve for the variable indicated.

a. $P = 2l + 2w$; solve for w

b. $V = lwh$; solve for h

c. $A = \pi r^2$; solve for r

d. $V = \frac{1}{3} Bh$; solve for B

C. Jenni has a large box in the shape of a cube which she uses to store her summer clothes. If the volume of the box is 27 cubic feet, what is the length of an edge of the box?

D. Mario ordered three pizzas to share with a group of friends. To the nearest square inch, the area of the pepperoni pizza is 79 square inches, the area of the veggie pizza is 154 square inches and the area of the pineapple pizza is 201 square inches. Determine, to the nearest inch, the diameter of each of the pizzas.

E. The formula for the surface area of a sphere is $A = 4\pi r^2$. Find the radius if the surface area is 20 in².

F. For each of the following, solve for x :

a. $2.3x - 4.7 = -10.7x + 27.8$

b. $3(x + 5) = 2(x + 3) - 11$

c. $-4(x - 8) = 18 + 3x$

d. $3 - \frac{1}{2}(x + 7) = 18$