

MCAS Archive Questions

10.M.3

2008, Mathematics - Grade 10
Question 32: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Each of two different-sized boxes is in the shape of a right rectangular prism. The volume of the larger box is 4 times the volume of the smaller box. The dimensions of the smaller box are represented below.

- length: l
- width: w
- height: h

Which of the following could represent the dimensions of the larger box?

- A. $l, 4w, 4h$
- B. $2l, 2w, h$
- C. $2l, 2w, 4h$
- D. $4l, 4w, 4h$

2008, Mathematics - Grade 10
Question 34: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Manuel is using a small paper rectangle and a large paper rectangle for an art project.

- The length of the small rectangle is half the length of the large rectangle.
- The width of the small rectangle is half the width of the large rectangle.

The area of the small rectangle is how many times the area of the large rectangle?

A. $\frac{1}{16}$

B. $\frac{1}{8}$

C. $\frac{1}{4}$

D. $\frac{1}{2}$

2007, Mathematics - Grade 10
Question 28: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Two containers in the shape of right circular cylinders are equal in height. The radius of the larger container is 3 times the radius of the smaller container.

The volume of the larger container is how many times the volume of the smaller container?

- A. 3
- B. 6
- C. 9
- D. 27

2006, Mathematics - Grade 10
Question 26: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Kevin used snowballs in the shape of a sphere to build a snowman. The radius of the largest snowball was 1.5 times the radius of the smallest snowball.

How many times greater was the volume of the largest snowball than the volume of the smallest snowball?

- A. 7.065
- B. 6.28
- C. 3.375
- D. 2.25

2006, Mathematics - Grade 10
Question 32: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Rectangle $ABCD$ is similar to rectangle $EFGH$.

- The length of each side of rectangle $EFGH$ is 2.4 times the length of the corresponding side of rectangle $ABCD$.
- The perimeter of rectangle $ABCD$ is 120 feet.

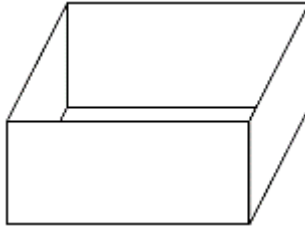
What is the perimeter of rectangle $EFGH$?

- A. 288 feet
- B. 345.6 feet
- C. 576 feet
- D. 691.2 feet

2003, Mathematics - Grade 10
Question 35: Multiple-Choice
Reporting Category: Measurement
Standard: 10.M.3



Jennifer keeps a box under her bed to store clothes. The box is in the shape of a rectangular prism as shown in the figure below.



Jennifer's sister, Molly, made a box that had the same height as Jennifer's box. Molly, however, realized that she could triple the length and double the width and it would still fit under her bed.

What is the ratio of the volume of Molly's box to the volume of Jennifer's box?

- A. 6:1
- B. 12:1
- C. 36:1
- D. 216:1