

Math Common Core 7th Grade (Speedy Study Guides: Academic)

Speedy Study Guides

MATH COMMON CORE 7TH GRADE

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with exponents and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Value and Proportions

Question 1

Y is directly proportional to x . When $x = 5$, $y = 8$. What does y equal when $x = 9$?

First, we set up our general equation. Because y is directly proportional to x , we have:

$$y = cx$$

where c is the constant of proportionality. In other words, when x goes up, y goes up, and when x goes down, y goes down.

The next thing we do is plug our values for x and y into the equation so we can solve for c :

$$8 = c(5)$$

Solving for c , we get $c = 8/5 = 1.6$ and we plug this into our equation:

$$y = 1.6x$$

Now, we can plug $x = 9$ into the equation to find out what y equals:

$$y = (1.6)(9)$$

$$y = 14.4$$

So, our answer is 14.4.

Question 2

Y is directly proportional to the square of x . When $x = 2$, $y = 32$. What does y equal when $x = 3$?

This time, our general equation is slightly more complicated because x is squared:

Like before, we solve for our constant:

$$32 = c(2^2)$$

$$32 = c(4)$$

We get $c = 8$.

$$y = 8x^2$$

Solving for y when $x = 3$, we get $y = (8)(3^2) = (8)(9) = 72$.

Question 3

Y is inversely proportional to x . When $x = 2$, $y = 8$. What does y equal when $x = 24$?

This time, because y is inversely proportional to x , our general equation is different:

$$xy = c$$

so when x goes up, y goes down, and vice versa. But, other than that, we solve these kinds of problems the same way as direct proportion problems.

Solving for the constant, we get:

$$(2)(8) = c$$

So $c = 16$ and our equation is now:

$$xy = 16$$

Solving for y when $x = 24$ we get $y = 16/24 = 2/3$.

Question 4

Y is inversely proportional to the square root of x . When $x = 36$, $y = 2$. What does y equal when $x = 64$?

As before, we set up our equation:

$$\sqrt{x}y = c$$

Since the square root of 36 is 6, it is easy to solve for c :

$$(6)(2) = c$$

We get $c = 12$ and our equation is now:

$$\sqrt{x}y = 12$$

Solving for y when $x = 64$ we get $y = 12/\sqrt{64} = 12/8 = 1.5$ because the square root of 64 is 8.

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Reviews

Very beneficial to all category of folks. We have study and that i am sure that i will planning to go through yet again again in the future. Its been printed in an extremely straightforward way in fact it is just soon after i finished reading this pdf where actually changed me, alter the way i really believe. (Emmett Mann)

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Speedy Publishing LLC, United States, 2014. Paperback. Book Condition: New. 274 x 218 mm. Language: English . Brand New Book ***** Print on Demand *****.The Math Common Core 7th grade represents a program of study to be taught in public schools. Specifically, by the end of the seventh grade, students are taught and expected to master five critical domains: (1) expressions and equations; (2) geometry;(3) ratios and proportional relationships; (4) the number system; and (5) statistics and probability. A national education standard is one of the many benefits that was created by the Math Common Core 7th grade. Further, the standard provides rigorous academic goals. In doing so, students are better prepared to compete with their foreign counterparts, thus ensuring a promising future.



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