

Grade 7 Advanced Study Guide Math Mid-Year Exam

Date: Sunday, December 10th, 2023.

Time: 8:00 to 9:30.

Duration: 1 hour and 30 minutes.

Study from: Math Reveal Accelerated Textbook, Math notebook, IXL, ALEKS.

Lesson	Topic	Pages
1-2	Understand Proportional Relationships	3-12
1-4	Graphs of Proportional Relationships	31-40
2-1	Percent of Change	63-72
2-2	Tax	73-82
2-4	Discounts	91-96
3-1	Add Integers	127-137
3-2	Subtract Integers	139-148
3-3	Multiply Integers	149-158
3-4	Divide Integers	159-166
3-6	Rational Numbers	171-180
3-7	Add and Subtract Rational Numbers	181-194

**Types of Questions to expect:
Multiple choice, calculations, and word problems.**

Keywords: (To be understood, not memorized)

Proportional Relationship: Two amounts are proportional if the ratios comparing them are equivalent.
Nonproportional: Two amounts are proportional if the ratios comparing them are not equivalent.
Ratio: A relationship between two quantities, expressed as the quotient of one divided by the other.

Constant of Proportionality:

A constant ratio or unit rate of two variable quantities. It is also called the constant of variation.

Percent decrease:

A negative percent of change.

Percent increase:

A positive percent of change.

Percent of Change:

A ratio, written as a percent, which compares the change in quantity to the original amount.

Sales Tax:

An additional amount of money added to an initial value.

Discounts:

A discount or markdown is the amount by which the regular price of an item is reduced. The sale price is the original price minus the sale price original price - discount.

discount. The percent discount is a percent of decrease.

$$\text{sale price} = \text{original price} - \text{discount}$$

Rational Number:

The set of numbers that can be written in the form, where a and b are integers and b is not equal to 0.

Examples: $1 = \frac{1}{1}$, $\frac{2}{9}$, $-2.3 = -2\frac{3}{10}$

$$1 = \frac{1}{1}, \frac{2}{9}, -2.3 = -2\frac{3}{10}$$

Additive Inverse or Opposites:

A number that when added to a given number, results in a sum of zero.

Example: The additive inverse of 4 is -4 because $4 + (-4) = 0$.

Kindly note that calculators are NOT allowed to be used and smart watches should NOT be worn during an exam.