

Math, Grade 8 (IMRA)

Subject: Mathematics

Grade: 08

Expectations: 52

Breakouts: 152

(a) Introduction.

1.

- (i) apply mathematics to problems arising in everyday life
 - (ii) apply mathematics to problems arising in society
 - (iii) apply mathematics to problems arising in the workplace
- (B) use a problem-

- (iii) locate that rational number approximation on a number line
- (C) convert between standard decimal notation and scientific notation; and
 - (i) convert between standard decimal notation and scientific notation
- (D) order a set of real numbers arising from mathematical and real-world contexts.
 - (i) order a set of real numbers arising from mathematical contexts
 - (ii) order a set of real numbers arising from real-world contexts

(3) Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to:

- (A) generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation;
 - (i) generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation
- (B) compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane; and
 - (i) compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane
- (C) use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.
 - (i) use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation

(4) Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to:

- (A) use similar triangles to explain the slope of a line (opposite reciprocals) (p)-1.8 ()6.5 (de)3or

(A)

- (l) write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabwcb.1-2 (r re)-10x2.4 (5 (teaodm)2.6 (gr re)-1l)3.5 (p)2.5.5hic1-2 (c)2 (b.q)-4 (ur re)-13.7 (pr re)-13.7 (s re8-13

(10) Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry1.054 T6t.1 7Bo

- (B) determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points; and
 - (i) determine the mean absolute deviation
 - (ii) use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points
 - (C) simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.
 - (i) simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected
- (12) Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to:
- (A) solve real-world problems comparing how interest rate and loan length affect the cost of credit;
 - (i) solve real-world problems comparing how interest rate affect[s] the cost of credit

