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MAFS.912.N-Q.1.2 15
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MAFS.912.N-Q.1.3 19
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MAFS.912.A-SSE.1.1 25
Interpret expressions that represent a quantity in terms of its context.

- **a.** Interpret parts of an expression, such as terms, factors, and coefficients.
- **b.** Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.

MAFS.912.A-CED.1.1 29
Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute and exponential functions.

MAFS.912.A-CED.1.2 34
Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

MAFS.912.A-CED.1.3 41
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MAFS.912.A-CED.1.4 46
Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.

MAFS.912.A-REI.1.1 48
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Unit 2: Linear and Exponential Relationships 58

MAFS.912.N-RN.1.1 59
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MAFS.912.N-RN.1.2 61
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MAFS.912.A-REI.3.5 65
Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

MAFS.912.A-REI.3.6 69
Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

MAFS.912.A-REI.4.10 72
Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

MAFS.912.A-REI.4.11 76
Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

MAFS.912.A-REI.4.12 79
Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

MAFS.912.F-IF.1.1 82
Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of *f* corresponding to the input x. The graph of *f* is the graph of the equation y = f(x).

MAFS.912.F-IF.1.2 87
Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

MAFS.912.F-IF.1.3 91
Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.

MAFS.912.F-IF.2.4 94
For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

MAFS.912.F-IF.2.5 100
Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.

MAFS.912.F-IF.2.6 105
Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

MAFS.912.F-IF.3.7 110
Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

MAFS.912.F-IF.3.9 117
Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which one has the larger maximum.

MAFS.912.F-BF.1.1 124
Write a function that describes a relationship between two quantities.

- **a.** Determine an explicit expression, a recursive process, or steps for calculation from a context.
- **b.** Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.
- **c.** Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.

MAFS.912.F-BF.2.3 127
Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

MAFS.912.F-LE.1.1 134
Distinguish between situations that can be modeled with linear functions and with exponential functions.

- **a.** Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
- **b.** Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
- **c.** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

MAFS.912.F-LE.1.2 140
Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

MAFS.912.F-LE.1.3 144
Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

MAFS.912.F-LE.2.5 148
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Unit 3: Descriptive Statistics 153

MAFS.912.S-ID.1.1 154
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MAFS.912.S-ID.1.2 160
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MAFS.912.S-ID.1.3 166
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MAFS.912.S-ID.2.5 172
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MAFS.912.S-ID.2.6 177
Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

- **a.** Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.
- **b.** Informally assess the fit of a function by plotting and analyzing residuals.
- **c.** Fit a linear function for a scatter plot that suggests a linear association.

MAFS.912.S-ID.3.7 183
Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

MAFS.912.S-ID.3.8 187
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MAFS.912.S-ID.3.9 191
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Unit 4: Expressions and Equations 193

MAFS.912.A-SSE.1.1 194
Interpret expressions that represent a quantity in terms of its context.

- **a.** Interpret parts of an expression, such as terms, factors, and coefficients.
- **b.** Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.

MAFS.912.A-SSE.1.2 198
Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.

MAFS.912.A-SSE.2.3 202
Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.

- **a.** Factor a quadratic expression to reveal the zeros of the function it defines.
- **b.** Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
- **c.** Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be rewritten as $\left(1.15^{1/12}\right)^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.

MAFS.912.A.APR.1.1 207
Understand that polynomials form a system analogous to the integers, namely, they are **closed** under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

MAFS.912.A-APR.2.3 210
Identify zeros of polynomials when suitable factorization are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

MAFS.912.A-CED.1.1 215
Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute and exponential functions.

MAFS.912.A-CED.1.2 222
Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

MAFS.912.A-CED.1.4 227
Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.

MAFS.912.A-REI.2.4 230
Solve quadratic equations in one variable.

- **a.** Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
- **b.** Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.

Unit 5: Quadratic Functions and Modeling 234

MAFS.912.N-RN.2.3 235
Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

MAFS.912.F-IF.2.4 239
For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

MAFS.912.F-IF.2.5 243
Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.

MAFS.912.F-IF.2.6 247
Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

MAFS.912.F-IF.3.7 251
Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

- **a.** Graph linear and quadratic functions and show intercepts, maxima, and minima.
- **b.** Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

MAFS.912.F-IF.3.8 256
Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

- **a.** Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
- **b.** Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = 1.02^t$, $y = .97^t$, $y = 1.01^{12t}$, $y = 1.2^{t/10}$, and classify them as representing exponential growth or decay.

MAFS.912.F-IF.3.9 260
Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which one has the larger maximum.

MAFS.912.F-BF.1.1 266
Write a function that describes a relationship between two quantities.

- **a.** Determine an explicit expression, a recursive process, or steps for calculation from a context.
- **b.** Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.

MAFS.912.F-BF.2.3 270
Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

MAFS.912.F-LE.1.3 276
Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Unit 1

Relationships Between Quantities and Reasoning with Equations

Reason quantitatively and use units to solve problems..........12

Interpret the structure of expressions 25

Create equations that describe numbers or relationships......29

Understand solving equations as a process of reasoning
and explain the reasoning..48

Solve equations and inequalities in one variable.......................51

Reason quantitatively and use units to solve problems

MAFS.912.N-Q.1.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

REVIEW: In real-world situations, quantities that are represented by numbers are almost always associated with units. Unit of measurement is a quantity used as a standard of measurement and it often requires a conversion.

Conversions within a System of Measure

1 yard = 3 feet	1 gallon = 4 quarts	1 meter = 100 centimeters
1 mile = 1,760 yards	1 pound = 16 ounces	1 centimeter =10 millimeters
1 mile = 5,280 feet	1 ton = 2,000 pounds	1 kilometer = 1000 meters
1 acre = 43,560 square feet		1 liter =1000 cubic centimeters
1 cup = 8 fluid ounces	1 minute = 60 seconds	1 gram = 1000 milligrams
1 pint = 2 cups	1 hour = 60 minutes	1 kilogram = 1000 grams
1 quart = 2 pints	1 year = 52 weeks = 365 days	

Conversions between Systems of Measure

When converting from Customary to Metric, use these approximations.

1 inch = 2.54 centimeters	1 cup = 0.24 liter	1 pound = 0.454 kilogram
1 foot = 0.305 meter	1 gallon = 3.785 liters	
1 mile = 1.61 kilometers	1 ounce = 28.35 grams	

When converting from Metric to Customary, use these approximations.

1 centimeter = 0.39 inch	1 liter = 4.23 cups	1 kilogram = 2.205 pounds
1 meter = 3.28 feet	1 liter = 0.264 gallon	
1 kilometer = 0.62 mile	1 gram = 0.0353 ounce	

Example 1: Convert the following

36 inches = _________ feet
4 cups = _________ gallons
6 inches = ________ cm

Solution:

36 inches = $36 * \frac{1}{12}$ feet = 3 feet

4 cups = 2 pints = 1 quart = 0.25 gallons

6 inches = 6 * 2.54 cm = 15.24 cm

3 miles = _________ km
2.5 kg = _________ pounds
120 sec = _________ hour

Solution:

3 miles = 3* 1.61 km = 4.83 km

2.5 kg = 2.5 * 2.2 pounds = 5.5 pounds

120 sec = $120 * \frac{1}{3600}$ hours = 0.03 hours

Example 2: A 9-foot piece of ribbon costs \$16.20. What is the price per inch?

Solution: Since 9 feet = 9 * 12 inches = 108 inches, and since 108 inches cost \$16.20, hence 1 inch costs $\frac{16.20}{108} = \$0.15$.

Example 3: While walking at a brisk speed of 4 miles per hour Hallie noticed a big bird flying across the street at a speed of 12 feet per second. Is the bird twice as fast as Hallie?

Solution: To compare speeds, we need to convert 12 feet per second to miles per hour.

Since 1 ft$=\frac{1}{5280}$miles and 1 sec$=\frac{1}{3600}$hours, we get

$$12\,\frac{ft}{sec} = \frac{12*\frac{1}{5280}miles}{\frac{1}{3600}hours} = \frac{12*3600}{5280}\,\frac{miles}{hour} = 8.18\,\frac{mi}{h},$$

which is more than twice Hallie's speed.

Example 4: Alonzo is driving his car in Canada. He noticed that the speed limit signs have numbers like 120 (on the highway) and 50 (in the city). As he speeds up, he realizes that the signs are in km/h. Unfortunately, his speedometer only reads in mi/h. Figure out how fast he is allowed to go if the sign says:

a. 120 km/h
b. 50 km/h

Solution:

a. $$120\,\frac{km}{h} = \frac{120*\frac{1}{1.61}miles}{1\;hour} = \frac{120*0.6211}{1}\,\frac{miles}{hour} = 74.53\,\frac{mi}{h}$$

b. $$50\,\frac{km}{h} = \frac{50*\frac{1}{1.61}miles}{1\;hour} = \frac{50*0.6211}{1}\,\frac{miles}{hour} = 31.06\,\frac{mi}{h}$$

Now Try These:

For 1-15, Equation Editor:

Convert:

1. 4.5 km = ______ cm

2. 15.7 mi = ____ km

3. 440 yd = ______ m

4. 22 gl = ______ l

5. 3.6 years = ______ sec

6. 3598 gr = ______ lbs

7. 5 km/h = ______ m/s

8. 30 mi/h = ______ ft/s

9. 11.5 mi/h = ______ km/h

10. 50 mi/h = ______m/s

11. 8800 ft/s = ______ mi/h

12. 2.5 mm^2 = ______ m^2

13. 850 ft^2 = ______ m^2

14. 9 cm^3 = ______ km^3

15. 13 in^3 = ______cm^3

For 16-25, Equation Editor:

16. The average commercial jet flies around an altitude of 32,500 feet. How high is this in kilometers?

17. A banner has a length of 9 yards and width of 48 inches. How much material is needed for the banner?

18. George buys a 750 ml bottle of syrup. How many drinks can he make using an ounce and a half of syrup in each drink?

19. If a car is moving at 60 miles per hour, is that faster or slower than 60 feet per second?

20. Abu is given 3 yards of tape to make labels. How many labels 20 cm in length can he make?

21. A tire impression left in the mud at a crime scene was 8.7 inches wide. Convert this to centimeters.

22. Light travels at a speed of 3.00×10^{10} cm/s. What is the speed of light in km/h?

23. Mary drew a scale drawing of her flower garden. The scale of the drawing was 1 cm = 1.5 m. If the flower garden is 3 cm long in the drawing, how long is the actual garden?

24. Lake Okeechobee has a surface area of 730 square miles and an average depth of 9 feet. How much water does it hold, in cubic miles? in liters?

25. Lake Okeechobee has a surface area of 730 square miles. If an inch of rain falls on the lake one day, how many gallons have been added to its volume? How many liters?

Everglades K-12 Publishing's Mathematics Florida Standards Algebra 1
Formative Assessment 1

Relationships between Quantities and Reasoning with Equations

Formative Assessment 1

Solve and answer all of the problems on this assessment. Select the best answer for each of the Multiple Choice, Multiselect, Editing Task Choice and Matching Item problems. Complete the Equation Editor, Table Item, Open Response, Hot Text and Graphic Response Item Display (GRID) problems.

1. Equation Editor

A rectangle has dimensions 91cm and 57cm. Calculate its area in square meters. MAFS.912.N-Q.1.1

2. Choose the best unit for measuring the following. MAFS.912.N-Q.1.2

a. Multiple Choice
The height of Statue of Liberty
- **i.** millimeters
- **ii.** feet
- **iii.** miles
- **iv.** centimeters

b. Multiple Choice
The length of a grain of rice
- **i.** miles
- **ii.** centimeters
- **iii.** millimeters
- **iv.** feet

c. Multiple Choice
Amount of coffee in a cup
- **i.** liters
- **ii.** ounces
- **iii.** kilograms
- **iv.** gallons

3. Multiselect

The formula for finding the perimeter of a rectangle is $P = 2b + 2h$. Which of the following is the same equation solved for h? Select all that apply.
MAFS.912.A-CED.1.4

- o $h = \frac{P-2b}{2}$
- o $h = 2(P - b)$
- o $h = \frac{2}{P-2b}$
- o $h = \frac{P}{2} - b$
- o $h = \frac{2b-P}{2}$

4. Open Response

Given $y \leq 3x - 3$ and $y > 2x + 1$ find a point that:
MAFS.912.A-CED.1.3

a. Satisfies both inequalities.

b. Satisfies one, but not the other.

c. Satisfies neither.

5. Hot Text

Drag the correct property into each box. MAFS.912.A-REI.1.1

Addition Property of Equality **Commutative Property of Equality** **Distributive Property** **Division Property of Equality** **Multiplication Property of Equality** **Subtraction Property of Equality** **Substitution**

$\frac{x+1}{x+2} = 3$	Equation Given
$3x + 6 = x + 1$	
$2x + 6 = 1$	
$2x = -5$	
$x = -2.5$	

6. Editing Task Choice

The square of a number is 20 more than the number itself. This can be described by the equation $(x + 20)^2 = x$.
MAFS.912.A-CED.1.1

$(x + 20)^2 = x$
$(x - 20)^2 = x$
$x^2 = x + 20$
$x^2 = x - 20$

7. Open Response

Decide whether the expressions $(c - 1)(c - 3)$ and $c(c - 3) + 3$ are equivalent and explain your reasoning.
MAFS.912.A-SSE.1.1

8. Equation Editor

Write an algebraic expression or equation for each problem.
MAFS.912.A-SSE.1.1

a. The sum of x and 65 is 128.

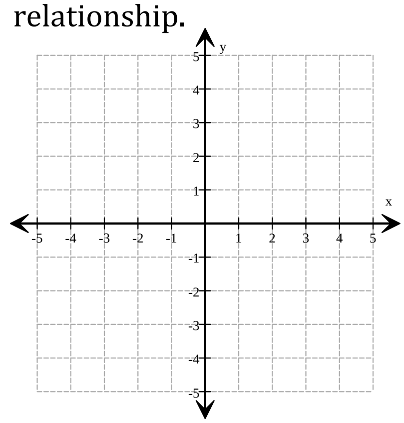
b. Divide the sum of x and three times y by 34.

c. Subtract the product of m and n from the sum of a and b.

9. Consider the linear relationship $2x + 3y - 7 = 0$.
MAFS.912.A-CED.1.2

a. Equation Editor
Solve for y.

b. GRID
Sketch the graph of the relationship.



10. Multiple Choice

Garrett just landed in Los Angeles. He sent a text message to his friend that he had been flying at an elevation of 300,000 feet. What is the best explanation for his error?
MAFS.912.N-Q.1.2

A. Incorrect units
B. Incorrect decimal point placement
C. Not enough information
D. There is no error

11. Juan -Pablo wants to fence his yard. He measures his supply of fence and finds he has 18,000 inches of fence.
MAFS.912.N-Q.1.3

a. Multiple Choice
Which of the following is a better choice for measurement?

A. Feet **C.** Centimeters
B. Miles **D.** Kilometers

b. Equation Editor
Convert the 18,000 inches to the unit you chose in part a.

c. Equation Editor
Jose fences in a square portion of his yard. If the percent error in measurement of each side is 2%, what is the maximum possible area of the square enclosed by his fence?

d. Equation Editor

What is the minimum possible area enclosed by his fence?

12. The distance between two cities is 110 miles and it took a car two hours to drive from one city to another.
MAFS.912.N-Q.1.1

a. Equation Editor
What is the average speed of the car in miles per hour?

b. Equation Editor
What is the average speed of the same car in kilometers per hour?

c. Equation Editor
What is the average speed of this car in feet per second?

13. Equation Editor

The equation $A = s^2$ can be used to find the area of a square. Solve the equation for s. MAFS.912.A-CED.1.4

14. The equation $A = \frac{1}{2}bh$ can be used to find the area of a triangle.
MAFS.912.A-CED.1.4

a. Equation Editor
Solve the equation of a triangle for b.

b. Equation Editor
Solve the equation of a triangle for h.

c. Open Response

Explain the difference between parts a. and b.

d. Equation Editor

If the area of a triangle is 36 inches squared and the base is 6 inches, what is the height of the triangle?

15. Equation Editor

The scale of the drawing on the map is 1 centimeter = 10,000 meters. If the lake on the map is 48 mm long, how long is the actual lake? Give your answer in kilometers. MAFS.912.N-Q.1.1

16. Multiselect

Which of the following are linear relationships? Select all that apply.
MAFS.912.A-CED.1.2

A. $y = 3x^2 - 6$

B. $2y = 3x - 5$

C. $y^2 = x - 5$

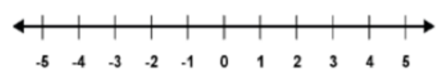
D. $3x - 2y = 9$

E. $y = 2^x$

F. $x = 3y - 3$

17. GRID

Solve $2x - 1 > 0$ or $x + 2 < 0$ for x. Shade the portion of the graph that identifies the solution.
MAFS.912.A-REI.2.3



18. Hot Text

Drop the correct property of equality into the box. MAFS.912.A-REI.1.1

Addition Property of Equality
Commutative Property of Equality
Distributive Property
Division Property of Equality
Multiplication Property of Equality
Subtraction Property of Equality
Substitution

a. If $7x = -7$, then $x = -1$.

b. If $3(x + 1) = 6$, then $3x + 3 = 6$.

c. If $\frac{1}{2}x = 10$, then $x = 20$.

d. If $10x - 1 = 3x - 8$, then $7x - 1 = -8$.

19. Multiple Choice

Elizabeth was making pumpkin bread that needs ½ teaspoon of nutmeg. What is the best estimate for the ½ teaspoon? MAFS.912.N-Q.1.2

A. 5 meters
B. 5 liters
C. 5 centiliters
D. 5 milliliters

20. Katia has only \$10.00 and she needs to buy oranges and bananas. One pound of oranges costs \$1.69 and one pound of bananas costs \$0.69.
MAFS.912.A-CED.1.3

a. Equation Editor

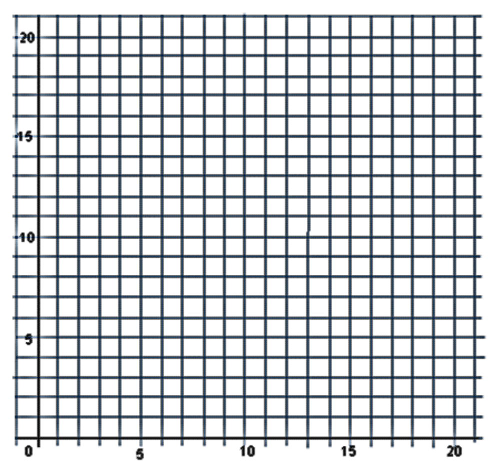
Write the inequality based on the given constraints. Do not solve.

b. Equation Editor

Find one possible combination of oranges and bananas that she can buy.

c. GRID

Graph the inequality that shows all possible combinations of oranges and bananas that she could buy.



21. Equation Editor

A father is three times as old as his son and the sum of their ages is 80. How old is the father?
MAFS.912.A-CED.1.1

22. Equation Editor

Solve the inequality
$-12 < 15x - 3 \leq 7$ for x
MAFS.912.A-REI.2.3

23. Multiple Choice

Which is the best estimate for the average distance that an average person can walk in 20 minutes?
MAFS.912.N-Q.1.2

A. 5 kilometers

B. 1 mile

C. 2,500 feet

D. 30 mm

24. Editing Task Choice

Solving the equation
$3x + 5 = 4x - 10$ for x results in
$x = 15$.
MAFS.912.A-REI.1.1

$x = 15$

$x = -15$

$x = 20$

$x = -20$

25. Eliza, Thomas and Franco are measuring the lengths of a large earthworm found in their garden. Eliza says that her worm is 12.25 cm long. Thomas says his worm is 12 cm long. Franco says his earthworm is 9.5 cm. MAFS.912.N-Q.1.3

a. Hot Text

Whose measurement is the most precise? Drag the correct name into the box.

Eliza, Franco, Thomas

b. Equation Editor

What is the sum of the lengths of their earth-worms keeping to the correct place of significance?