

6.N21

Find multiple representations of rational numbers (fractions, decimals, and percents 0 to 100)

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A 20-gallon container is filled with 6 gallons of gasoline. What fraction of the container is filled with gasoline?

A $\frac{20}{6}$

B $\frac{3}{10}$

C $\frac{6}{10}$

D $\frac{3}{5}$

Standard 5.NF.7c

Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ -

Domain: Number and Operations—Fractions

Item: CR

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Half of a school auditorium is needed to seat 3 equal-sized fifth grade classes.

Part A: Make a visual fraction model to represent the whole auditorium when each class is seated in separate sections.

Part B: Write an expression to determine what fractional part of the auditorium one fifth grade class will need.

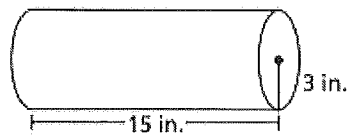
Part C: What fraction of the auditorium will one of the fifth grade classes need?

7.G04

Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.

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The diagram below shows a pillow Chris wants to cover with fabric.



(not drawn to scale)

What is the total surface area of the pillow? Round your answer to the nearest hundredth.

Show your work.

Answer _____ square inches

If Chris shortens the length of the pillow from 15 inches to 12 inches, how much less fabric will she need? Round your answer to the nearest hundredth.

Show your work.

Answer _____ square inches

6.G.1

Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

6.RP.1

Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."

Domain: Geometry
Item: CR

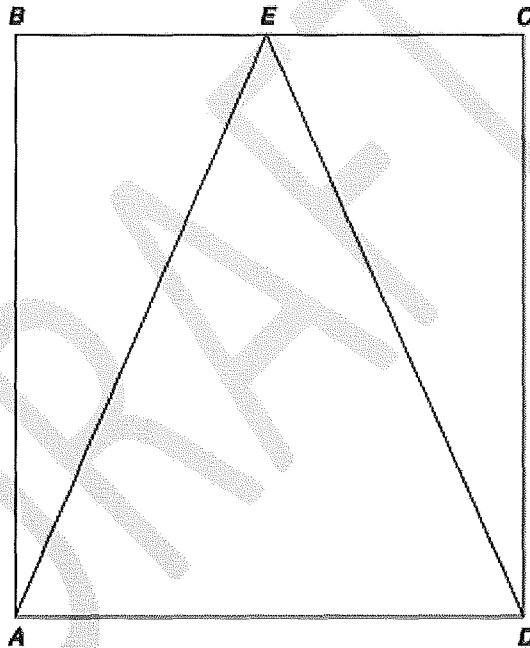
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Triangle ADE is inside rectangle $ABCD$. Point E is halfway between points B and C on the rectangle. Side AB is 8 cm and side AD is 7 cm.

Part A: What is the area of triangle ADE ? Show your work.

Part B: What is the ratio of the area of triangle ABE to the area of triangle ADE ?

Part C: What is the ratio of the area of triangle CDE to the area of rectangle $ABCD$?



(Not drawn to scale)

7.A02

Add and subtract monomials
with exponents of one

I

Which expression is equivalent to $14a - 4a + 5a - 3a$?

- A** $2a$
- B** $8a$
- C** $12a$
- D** $20a$

8.EE.7b

Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms

Domain: Expressions and Equations

Item: MC

8 $\frac{2}{3}(2x-1) + 2\frac{1}{3} = 7 + \frac{1}{2}x$

Which step would **not** be a possible first step for solving this equation algebraically?

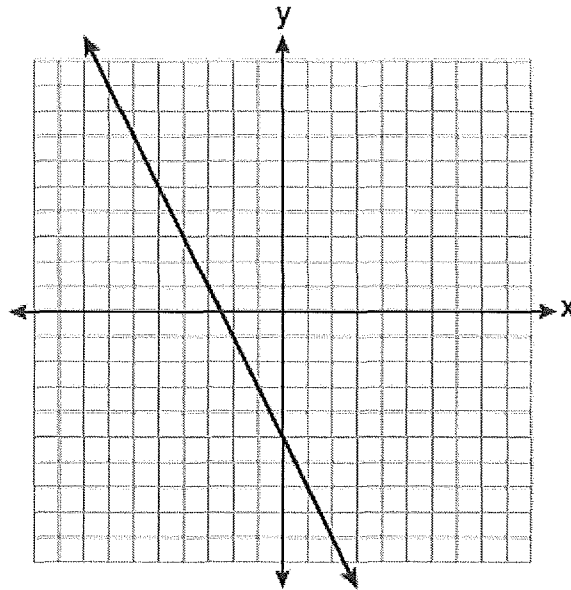
- A multiplying every term in the equation by six
- B subtracting $2\frac{1}{3}$ from 7
- C subtracting $\frac{1}{2}x$ from $2x$
- D multiplying -1 by $\frac{2}{3}$

*-lack of parentheses
-avoid Qs that ask
for exception*

*did not apply every
constraint to these
assessment items but
provide instructional use*

INTEGRATED ALGEBRA; FUNCTIONS

21 Which equation is represented by the graph below?



(1) $2y + x = 10$

(2) $y - 2x = -5$

(3) $-2y = 10x - 4$

(4) $2y = -4x - 10$

8.F.2

Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.

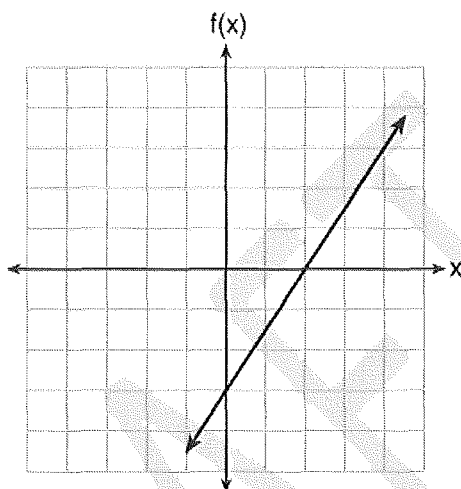
Domain: Functions

Item: CR

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The three different linear functions below are represented in three different ways, as shown.

x	f(x)
-3	-9
3	3
6	9



$$2y + 3 = 3x$$

(I)

(II)

(III)

Which function has the greatest rate of change? Does any pair of functions have the same rate of change? **Justify your answer.**