

Cashiers

Description: Cashiers add up customers' bills, take their money, and give change. They also fill out charge forms for credit cards and give receipts. Cashiers are responsible for the money they collect during their shifts. They cannot leave their cash drawers without permission from their supervisor. Cashiers use cash registers, scanners, and computers regularly.

Salary: \$20,222.00 per year or \$13.77 per hour

There are **9** math topics Cashiers need to know.

Basic Math / Algebra

- ▶ Fractions
- ▶ Decimals
- ▶ Negative Numbers
- ▶ Basic Problem Solving



Other Topics

- ▶ Basic Calculator Use
- ▶ Computer Use
- ▶ Mental Math
- ▶ Inductive/Deductive Reasoning
- ▶ Math Communications

Partner Names:

CAREER Cashier Challenge:

We know that a Canadian loonie equals one dollar or one hundred pennies. Since we do not use pennies anymore, think of how \$1.00 can be represented by nickels, dimes or quarters?

Draw the equivalent of \$1.00 using a combination of nickels, dimes or quarters using the number of coins indicated for each question. Illustrate the coins you use as fractions by indicating the fraction in the center of each coin and write each solution as a math equation.

1. six coins
2. seven coins
3. twelve coins

Solutions: (Note: Fractions would be in circles representing each different coin.)

1. Six coins that add to one loonie:

Quarter + quarter + quarter + dime + dime + nickel = loonie

$1/25 + 1/25 + 1/25 + 1/10 + 1/10 + 1/5 =$ need to find the lowest common denominator of (25, 10, 5), which is 50.

$$12.5/50 + 12.5/50 + 12.5/50 + 5/50 + 5/50 + 2.5/50 = 50/50 = 1$$

(Note: This can also be represented as $12 \frac{1}{2} + 12 \frac{1}{2} + 12 \frac{1}{2} + 5/50 + 5/50 + 2 \frac{1}{2}/50 = 50/50 = 1$)

We can also show the fractions with a common denominator of 100 because we are creating change out of one loonie.

$$25/100 + 25/100 + 25/100 + 10/100 + 10/100 + 5/100 = 100/100 = 1$$

2. Seven coins that add to one loonie:

Quarter + quarter + dime + dime + dime + dime + dime = loonie

$1/25 + 1/25 + 1/10 + 1/10 + 1/10 + 1/10 + 1/10 =$ need to find the lowest common denominator of (25, 10), which is 50.

$$12.5/50 + 12.5/50 + 5/50 + 5/50 + 5/50 + 5/50 + 5/50 = 50/50 = 1$$

Once again, we can show the fractions with a common denominator of 100 because we are creating change out of one loonie.

$$25/100 + 25/100 + 10/100 + 10/100 + 10/100 + 10/100 + 10/100 =$$

$$100/100 = 1$$

3. Twelve coins that add to one loonie:

Quarter + quarter + nickel...(total of 10 nickels) = loonie

$1/25 + 1/25 + 1/5$...(total of $1/5$ ten times) = need to find the lowest common denominator of (25, 5), which is 25.

$$6.25/25 + 6.25/25 + 1.25/25 \dots (\text{total of } 1.25/25 \text{ ten times}) = 25/25 = 1$$

Not to forget that we can show the fractions with a common denominator of 100 because we are creating change out of one loonie.





$$25/100 + 25/100 + 5/100 \dots (\text{total of } 5/100 \text{ ten times}) = 100/100 = 1$$

Travel Agents

Description: Travel agents make hotel, airline, car rental, and cruise reservations for people and businesses. They plan group tours and conferences. They tell clients what papers they need to travel in foreign countries. They must be up-to-date on cultural and political issues, restaurants, and tourist attractions.

Salary: \$40,054.00 per year or \$22.22 per hour

There are **16** math topics Travel agents need to know.

 <p>Basic Math / Algebra</p> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Percent▶ Customary Measurement▶ Metric Measurement▶ Measurement Conversion▶ Basic Statistics▶ Statistical Graphing▶ Basic Problem Solving	 <p>First-Year Algebra</p> <ul style="list-style-type: none">▶ Using Formulas	 <p>Geometry</p> <ul style="list-style-type: none">▶ Basic Terminology
 <p>Other Topics</p> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Computer Use▶ Group Problem Solving▶ Mental Math▶ Inductive/Deductive Reasoning		

Partner Names:

CAREER Travel Agent Challenge:

Mayor Tara is interested in touring Canada this year because it's Canada's 150th birthday. She is interested in either Nunavut or Manitoba because she has not visited this territory or this province before. Tara informs you that she has 15 days to travel and she would like to visit at least 5 cities. Considering the number of days that Tara has, how many days could your client spend in each city in Nunavut or in Manitoba?



Providing a written response about your thoughts: Looking at a map, you determine that Nunavut is about 1/5 of Canada's area and Manitoba covers about 1/15 of Canada's area. Considering the different areas of Nunavut and Manitoba, estimate if your client will be driving more between Nunavut or in Manitoba? Think about where the population are and the number of cities located in both Nunavut and Manitoba. Research using Google or the wall map in the classroom.



Solutions:

15 Loading...5 = 3 days in each of the 5 communities in Manitoba and Nunavut.




Considering the area of both Manitoba and Nunavut, I would suggest that the client chooses cities or communities that are closer together. Winnipeg and Iqaluit are the capital cities; however, by plane, the cities are 2300 km apart and there is no calculated distance for driving.

Medical Assistants

Description: Medical assistants help keep your doctor's office running smoothly. They answer phones, greet patients, schedule appointments, arrange for hospital admissions and tests, handle billing, and file records. They may take medical histories, explain treatments to patients, and help doctors with exams. They must have good people skills. Many work evenings and weekends.

Salary: \$52,763.00 per year or \$27.92 per hour

There are **21** math topics Medical assistants need to know.

 <h3>Basic Math / Algebra</h3> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Ratio and Proportion▶ Percent▶ Metric Measurement▶ Measurement Conversion▶ Basic Probability▶ Basic Statistics▶ Powers and Roots▶ Other Number Bases▶ Negative Numbers▶ Scientific Notation▶ Basic Problem Solving	 <h3>First-Year Algebra</h3> <ul style="list-style-type: none">▶ Using Formulas▶ Linear Equations▶ Linear Inequalities▶ Linear Systems	 <h3>Other Topics</h3> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Computer Use▶ Group Problem Solving▶ Mental Math
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Partner Names:

CAREER Medical Assistant Challenge:

You are Medical Assistant for a Cardiologist. A Cardiologist is a doctor who specializes in diagnosing and treating diseases or conditions of the heart and blood vessels. A common risk factor of cardiovascular disease is a patient being overweight. Part of your job to weigh patients before they see the doctor.

1. John's weight was 220 kilograms three months ago. John's weight loss goal was to loose $1/10$ of his weight by today. What would John's weight be today if he met his goal?
2. How many kilograms did John lose?
3. What would John's weight be if he lost another $1/10$ of his body weight in another three months?

Solutions:

1. $220/220 - 1/10 =$ need a common factor of (220, 10), which would be 220.
 $220/220 - 22/220 = 198/220$
John would weigh 198 kilograms.
2. $220 - 198 = 24$ John would would have lost 24 kilograms in three months.
3. $198/200 - 1/10 =$ need a common factor of (220, 10), which would be 220.
 $198/220 - 22/220 = 176/220$
If John lost another $1/10$ th of his weight, he would weigh 176 kilograms.

Computer Programmers

Description: Computer programmers write, update, test, and maintain the software that makes computers work. They provide detailed, step-by-step instructions for the computer. If the software does not produce the desired result, the programmer must correct the errors until the program works effectively. Some may work nights so that the computers they work on are available to businesses during the day.

Salary: \$97,706.00 per year or \$47.60 per hour

There are **30** math topics Computer programmers need to know.

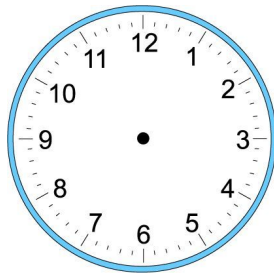
 <p>Basic Math / Algebra</p> <ul style="list-style-type: none"> ▶ Fractions ▶ Decimals ▶ Ratio and Proportion ▶ Percent ▶ Customary Measurement ▶ Measurement Conversion ▶ Basic Probability ▶ Basic Statistics ▶ Statistical Graphing ▶ Other Number Bases ▶ Negative Numbers ▶ Scientific Notation ▶ Basic Problem Solving 	 <p>First-Year Algebra</p> <ul style="list-style-type: none"> ▶ Using Formulas ▶ Linear Equations ▶ Linear Inequalities ▶ Operations with Polynomials ▶ Coordinate Graphing 2D ▶ Algebraic Representation 	 <p>Geometry</p> <ul style="list-style-type: none"> ▶ Basic Terminology
 <p>Second-Year Algebra / Trigonometry</p> <ul style="list-style-type: none"> ▶ Functions ▶ Matrices 	 <p>Other Topics</p> <ul style="list-style-type: none"> ▶ Basic Calculator Use ▶ Computer Use ▶ Computer Programming ▶ Group Problem Solving ▶ Mental Math ▶ Inductive/Deductive Reasoning ▶ Math Communications ▶ Mathematical Modeling 	

Partner Names:

CAREER Computer Programmer Challenge:

Chelsey responded to emails on her computer for $\frac{1}{2}$ of an hour and then wrote computer code for $\frac{1}{4}$ of an hour.

1. Write an equation to describe the fraction of an hour that Chelsey used her computer.
2. Can you determine what fraction out of one hour that Chelsey had left to do something else?
3. Can you visualize how many minutes that would be?



Solutions:





1. $\frac{1}{2} + \frac{1}{4} =$ find a common denominator, which would be 4.
 $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$
Chelsey used her computer for $\frac{3}{4}$ of one hour.
2. Chelsey started with one hour. She used $\frac{3}{4}$ of one hour. $\frac{1}{1} - \frac{3}{4} =$ find a common denominator, which would be 4.
 $\frac{4}{4} - \frac{3}{4} = \frac{1}{4}$
Chelsey had $\frac{1}{4}$ of an hour to do something else.
3. If we split the clock into four parts, Chelsey will have 15 minutes to do something else.

Personal and Home Care Aides

Description: Home health and personal care aides help elderly, disabled, and seriously ill patients to live at home instead of in a nursing home. They clean, do laundry, prepare meals, and help with personal hygiene. They also check the patient's pulse and blood pressure and give medication. Aides keep records of each patient's condition and progress. They often work part-time and weekend hours.

Salary: \$25,228.00 per year or \$18.68 per hour

There are **19** math topics Personal and home care aides need to know.

 <h3>Basic Math / Algebra</h3> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Ratio and Proportion▶ Percent▶ Customary Measurement▶ Metric Measurement▶ Measurement Conversion▶ Basic Statistics▶ Statistical Graphing▶ Negative Numbers▶ Basic Problem Solving	 <h3>First-Year Algebra</h3> <ul style="list-style-type: none">▶ Using Formulas	 <h3>Geometry</h3> <ul style="list-style-type: none">▶ Basic Terminology▶ Angle Measurement▶ Area
 <h3>Other Topics</h3> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Computer Use▶ Group Problem Solving▶ Mental Math		

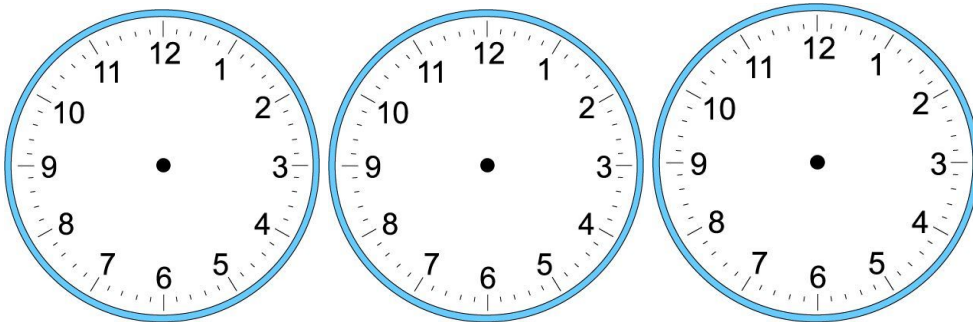


Partner Names:

CAREER Home Care Aide Challenge:

As a home care aide, one of Laura's challenges is to schedule her time each day with her patients. Today, Laura is going to see Karen. Laura has 3 hours to help Karen with meals, laundry and personal care.

1. How much time was spent on meal preparation and laundry?
2. How much time does Laura have left to help Karen bath?
3. Convert this fraction into minutes. (Challenge question, use multiplication.)



Solutions:




1. $1 \frac{1}{2} + \frac{2}{3} = \frac{3}{2} + \frac{2}{3} =$ find common denominator (2, 3), which is 6.
 $\frac{9}{6} + \frac{4}{6} = \frac{13}{6}$ or $2 \frac{1}{6}$ It will take Laura $2 \frac{1}{6}$ hours to help with meals and laundry.
2. If Laura has a total of three hours, then $3 - 2 \frac{1}{6} =$ find common denominator of 6.
 $\frac{3}{1} - \frac{13}{6} =$ find common denominator, which is 6.
 $\frac{18}{6} - \frac{13}{6} = \frac{5}{6}$
Laura would have $\frac{5}{6}$ of an hour to help Karen bath.
3. 60 minutes $\times \frac{5}{6} = 50$ minutes. Laura would need 50 minutes to help Karen bath.

Chefs, Cooks, and Food Preparation Workers

Description: Chefs and cooks plan and make meals in restaurants, schools, cafeterias, and hospitals. They supervise other workers, order supplies, and plan menus. Kitchen workers help chefs and cooks by chopping vegetables, measuring ingredients, and stirring soups and sauces. They also keep the kitchen clean and wash dishes. These workers are on their feet all day in crowded, hot kitchens. Most work evenings and weekends, and many work part-time.

Salary: \$43,669.00 per year or \$21.34 per hour

There are **18** math topics Chefs, cooks, and food preparation workers need to know.

 <h3>Basic Math / Algebra</h3> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Ratio and Proportion▶ Percent▶ Customary Measurement▶ Metric Measurement▶ Measurement Conversion▶ Basic Probability▶ Basic Problem Solving	 <h3>First-Year Algebra</h3> <ul style="list-style-type: none">▶ Using Formulas	 <h3>Geometry</h3> <ul style="list-style-type: none">▶ Angle Measurement▶ Area▶ Volume▶ Make/Use 3D Drawings
 <h3>Other Topics</h3> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Computer Use▶ Group Problem Solving▶ Mental Math		

Partner Names:

CAREER Chef Challenge:

You and your partner plan to make chocolate chip cookies for the class. You use the following recipe:

- 3/4 cup of granulated sugar
- 2/3 cup of packed brown sugar
- 1 cup of butter or margarine
- 1 1/8 teaspoon of vanilla
- 1 egg
- 2 1/2 cups of white flour
- 1 teaspoon baking soda
- 1/4 teaspoon salt
- 1 (12 oz.) package of semisweet chocolate chips



This recipe makes 36 cookies. You both decide that you would like everyone in the class to have 2 cookies. You will have a few left over.

How are you going to adjust this recipe?

Write down the ingredients list before you go shopping!

Solution:

Add each ingredient together twice to double the recipe to make approximately 72 cookies.

Shopping List:





- $3/4 + 3/4 = 6/4$ or 1 1/2 cups of granulated sugar
- $2/3 + 2/3 = 4/3$ or 1 1/3 cups of packed brown sugar
- 1 + 1 = 2 cups of butter or margarine
- $1\ 1/8 + 1\ 1/8 = 9/8 + 9/8 = 18/8$ or 2 1/4 teaspoons of vanilla
- 1 + 1 = 2 eggs
- $2\ 1/2 + 2\ 1/2 = 5/2 + 5/2 = 10/2$ or 5 cups of white flour
- 1 + 1 = 2 teaspoons baking soda
- $1/4 + 1/4 = 2/4$ or 1/2 teaspoon salt
- 1 + 1 = 2 (12 oz.) package of semisweet chocolate chips

Welding, Soldering, and Brazing Workers

Description: These workers use the heat from a torch to permanently join metal parts. Because of its strength, welding is used to build ships, cars, aircraft, and even the space shuttle. Welders may use a hand torch or a welding machine. They also use torches to cut and dismantle metal objects. Welders must wear protective gear to prevent burns and injuries. Some work outdoors on ladders or scaffolding.

Salary: \$80,323.00 per year or \$37.04 per hour

There are **17** math topics Welding, soldering, and brazing workers need to know.

 <h3>Basic Math / Algebra</h3> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Ratio and Proportion▶ Customary Measurement▶ Measurement Conversion▶ Powers and Roots▶ Basic Problem Solving	 <h3>First-Year Algebra</h3> <ul style="list-style-type: none">▶ Using Formulas	 <h3>Geometry</h3> <ul style="list-style-type: none">▶ Basic Terminology▶ Angle Measurement▶ Quadrilaterals▶ Pythagorean Theorem▶ Area▶ Volume▶ Make/Use 3D Drawings
 <h3>Other Topics</h3> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Mental Math		

Partner Names:

CAREER Welding Challenge:

A variety of basic welding applications, where you're working in construction or fabrication, require a basic understanding of measurements to cut and fit other materials or metals. Measurements are all based on fractions and they are also often converted to decimals.

Your challenge is to measure the classroom door frame so that you could cut steel with a welder to build a new door frame.

1. Start by measuring the door frame of the classroom using a tape measure.
 2. Add up your measurements.
 3. Convert the fraction measurements into decimals if you can. Show your work.
-

Solutions:





1. Measure the door frame.
2. Add up the measurements.
For example: $32 \frac{1}{2}'' + 80'' + 80'' = 192 \frac{1}{2}''$ is close to a standard interior door frame.
3. The fraction $\frac{1}{2}$ is also the equation $1 \text{ Loading...}2 = 0.5$
 $192.5''$ would be the decimal conversion of $192 \frac{1}{2}''$.

Carpenters

Description: Carpenters do all kinds of construction work, including woodworking, concrete work, drywall work, and many other jobs. They replace doors, windows, and locks; repair wooden furniture; hang kitchen cabinets; and install machinery. They work with hand and power tools and read blueprints. Carpenters form the largest group of building trade workers. Most work in new construction or remodeling. Others are self-employed.

Salary: \$72,634.00 per year or \$33.30 per hour

There are **19** math topics Carpenters need to know.

 <p>Basic Math / Algebra</p> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Percent▶ Customary Measurement▶ Measurement Conversion▶ Basic Problem Solving	 <p>First-Year Algebra</p> <ul style="list-style-type: none">▶ Linear Equations▶ Algebraic Representation	 <p>Geometry</p> <ul style="list-style-type: none">▶ Basic Terminology▶ Angle Measurement▶ Parallel Lines▶ Quadrilaterals▶ Pythagorean Theorem▶ Area▶ Volume▶ Make/Use 3D Drawings
 <p>Other Topics</p> <ul style="list-style-type: none">▶ Basic Calculator Use▶ Group Problem Solving▶ Mental Math		

Partner Names:

CAREER Carpenter Challenge:

Consider the variety of measurements that a carpenter can make. For both short and long measurements, carpenters are adding fractions. Fractions that are mixed numbers can be added in two different ways. Either change the mixed numbers into improper fractions and add them or add the whole numbers first and then add the fractions to the whole numbers.

As a carpenter, your challenge is to measure the baseboards around the classroom so you can install new baseboards next week. The materials are coming from the United States, so your measurements need to be in feet and inches.

What is the total length of materials needed?

Solution:

Using a tape measure, measure the base boards around the classroom.

An example of the results could be:

$26' \frac{3}{4}'' + 50' \frac{1}{2}'' + 25' \frac{1}{2}'' + 51'$ = add the feet first, then add the inches.
 $\frac{3}{4}'' + \frac{1}{2}'' + \frac{1}{2}''$ = find a common denominator of (2, 4), which would be 4.
 $\frac{3}{4} + \frac{2}{4} + \frac{2}{4} = \frac{7}{4}$ or $1' \frac{3}{4}''$





$152' + 1' \frac{3}{4}'' = 153' \frac{3}{4}''$ would be the measurement of the base boards.

Animal Care and Service Workers

Description: Animal care and service workers feed, water, bathe, and exercise animals in clinics, kennels, and zoos. They play with the animals, watch them for illness or injury, and clean and repair their cages. Kennel staff care for cats and dogs; stable workers groom, exercise, and care for horses; and zookeepers care for wild and exotic animals. They may work outdoors in all kinds of weather. The work can be dirty and dangerous. Many work weekends and nights, and some travel with animals to sports events or shows.

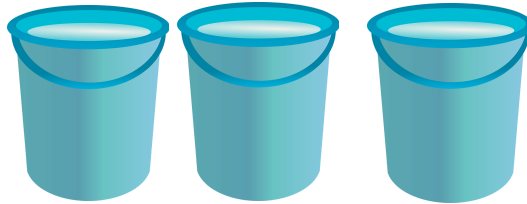
Salary: \$40,424.00 per year or \$21.31 per hour

There are **17** math topics Animal care and service workers need to know.

 <p>Basic Math / Algebra</p> <ul style="list-style-type: none">▶ Fractions▶ Decimals▶ Ratio and Proportion▶ Percent▶ Metric Measurement▶ Basic Probability▶ Powers and Roots▶ Scientific Notation▶ Basic Problem Solving	 <p>First-Year Algebra</p> <ul style="list-style-type: none">▶ Using Formulas	 <p>Geometry</p> <ul style="list-style-type: none">▶ Angle Measurement▶ Area▶ Volume
 <p>Other Topics</p> <ul style="list-style-type: none">▶ Calculus and Higher Math▶ Computer Use▶ Computer Programming▶ Mental Math		

Partner Names:

CAREER Animal Care Challenge:



As the newest S.P.C.A employee in Red Deer, it is important to make sure that all the animals have plenty of water. You have learned that different sizes of dogs need different amounts of water each shift.

For example:

Large dogs = $1/2$ bucket

Medium dogs = $1/3$ bucket

Small dogs = $1/4$ bucket

To be more efficient, you decide to calculate how much water is needed by the dogs for the morning shift.

You have 2 large dogs, 1 medium dog and 3 small dogs.

How many buckets of water will you need total if you add the water all together in the buckets?

Draw on the buckets to help you to visualize this problem.

Solution:

2 Large dogs = $1/2$ bucket each, so $1/2 + 1/2 = 1$ bucket

1 medium dog = $1/3$ bucket each, so = $1/3$ bucket

3 small dogs = $1/4$ bucket each, so $1/4 + 1/4 + 1/4 = 3/4$ bucket

Adding all the water required for the 6 dogs, $1 + 1/3 + 3/4 =$ find a common denominator for (1, 3, 4), which is 12.





$12/12 + 4/12 + 9/12 = 25/12$ or $2 \frac{1}{12}$ buckets required to water the 6 different sized dogs.

Landscape Architects

Description: Landscape architects make areas such as parks, malls, and golf courses beautiful and useful. They decide where the buildings, roads, and walkways will go, and how the flower gardens and trees should be arranged. They create designs, estimate costs, and check that the plans are being carried out correctly. Some work for major companies, but many are self-employed.

Salary: \$55,402.00 per year or \$29.65 per hour

There are **19** math topics Landscape architects need to know.

 <p>Basic Math / Algebra</p> <ul style="list-style-type: none"> ▶ Fractions ▶ Decimals ▶ Ratio and Proportion ▶ Percent ▶ Customary Measurement ▶ Measurement Conversion ▶ Statistical Graphing ▶ Powers and Roots ▶ Basic Problem Solving 	 <p>First-Year Algebra</p> <ul style="list-style-type: none"> ▶ Using Formulas 	 <p>Geometry</p> <ul style="list-style-type: none"> ▶ Basic Terminology ▶ Angle Measurement ▶ Pythagorean Theorem ▶ Area ▶ Volume ▶ Make/Use 3D Drawings
 <p>Other Topics</p> <ul style="list-style-type: none"> ▶ Basic Calculator Use ▶ Mental Math ▶ Inductive/Deductive Reasoning 		

Partner Names:

CAREER Landscaper Challenge:

Logan mowed $\frac{1}{3}$ of a lawn before lunch and another $\frac{2}{5}$ after lunch.

Using symbols, illustrate $\frac{1}{3}$ as stars and $\frac{2}{5}$ as circles on the following grid.

How much of the lawn is left to mow?

Write your answer as a fraction.

Solution:

To determine the amount of lawn mowed, we need to look at each part as part of the whole lawn.















$\frac{1}{3} = \frac{5}{15}$. These are equivalent fractions.

$\frac{2}{5} = \frac{6}{15}$

If we add together $\frac{5}{15} + \frac{6}{15} = \frac{11}{15}$. This is the amount of lawn mowed.

If we want to determine how much of the lawn is left to mow, then we consider the whole and subtract the lawn already mowed.

$\frac{15}{15} - \frac{11}{15} = \frac{4}{15}$ is the amount of the lawn left to mow.


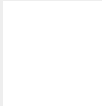
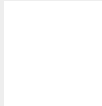

				
				
				

Firefighting Occupations

Description: Firefighters protect people from the dangers of fires. They must stay physically fit and strong. At the scene of a fire, they rescue victims, perform emergency medical aid, and operate and maintain equipment. During their shifts, firefighters live at the fire station. Most work 50 hours a week or more. Forest firefighters may parachute into a fire area to put out fires and dig a fire line. Firefighting is one of the most dangerous jobs in Canada.

Salary: \$70,880.00 per year or \$33.14 per hour

There are **20** math topics Firefighting occupations need to know.

 <p>Basic Math / Algebra</p> <ul style="list-style-type: none"> ▶ Fractions ▶ Decimals ▶ Ratio and Proportion ▶ Percent ▶ Customary Measurement ▶ Basic Statistics ▶ Statistical Graphing ▶ Powers and Roots ▶ Negative Numbers Basic Problem Solving 	 <p>First-Year Algebra</p> <p>Using Formulas</p>	 <p>Geometry</p> <p>Basic Terminology Angle Measurement Area Volume</p>
 <p>Other Topics</p> <p>Basic Calculator Use Computer Use Group Problem Solving Mental Math Inductive/Deductive Reasoning</p>		

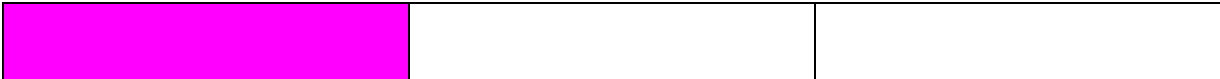
Partner Names:

CAREER Firefighter Challenge:

In Fire Station #109, the firefighters take turns doing dishes on their shifts. Because everyone works different shifts, it is difficult to create a dishwashing schedule. Create a diagram for each firefighter below that illustrated the following fractions that represent the number of times that they have washed dishes compared to the number of shifts they have worked last week.

Example:

Ethan's $1/3$



Melissa $1/4$

Jacob $1/2$

Write a bar graph that represents Melissa's and Jacob's For the next week's dishwashing schedule, in what order would you list the firefighters?

Solutions:

Melissa $1/4$



Jacob $1/2$





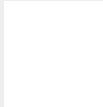

Melissa, Ethan and Jacob would be the dishwashing schedule.

Accountants and Auditors

Description: Accountants and auditors prepare and check financial reports and taxes. They work for businesses and banks, the government, and individuals. Some are self-employed, working as consultants or preparing people's tax returns. Most use computers in their work.

Salary: \$48,655.00 per year or \$24.72 per hour

There are **20** math topics Accountants and auditors need to know.

<p> Basic Math / Algebra</p> <p>Fractions Decimals Ratio and Proportion Percent Customary Measurement Basic Probability Basic Statistics Statistical Graphing Negative Numbers Basic Problem Solving</p>	<p> First-Year Algebra</p> <p>Using Formulas Linear Equations Algebraic Representation</p>	<p> Geometry</p> <p>Area</p>
<p> Other Topics</p> <p>Basic Calculator Use Computer Use Group Problem Solving Mental Math Inductive/Deductive Reasoning Mathematical Modeling</p>		

Partner Names:

CAREER Accountant Challenge:

An accountant office is considering advertising for new income tax clients. They review their existing clients and discover that $1/3$ of their clients are senior citizens and $2/5$ of their clients are millennials.

What fraction of their whole work day could be dedicated to new clients?
Try drawing this on a number line.

Solution:

$1/3 + 2/5 =$ find common denominators for (3, 5), which is 15.

$5/15 + 6/15 = 11/15$

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

X

How much of their whole work day could be dedicated to new clients?

$15/15 - 11/15 = 4/15$ could be dedicated to new clients.

References:

**Alberta Government - Alberta Learning Information Services
Occupations and Educational Programs - Based on the 2015 Alberta Wage and Salary
Survey**

<https://occinfo.alis.alberta.ca/occinfopreview/info/browse-wages.html>

XP Math Website:

<http://www.xpmath.com/careers/topicsresult.php?subjectID=1&topicID=1>

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