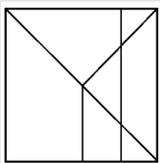
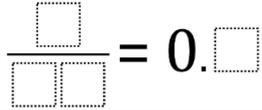
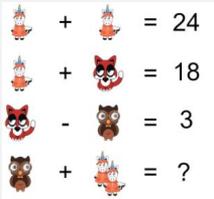
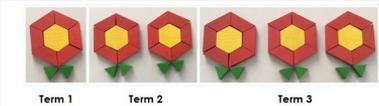
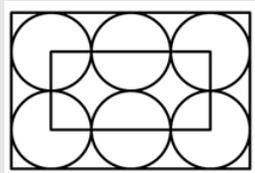
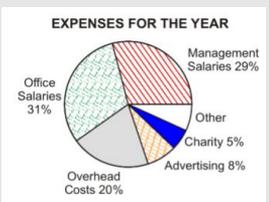
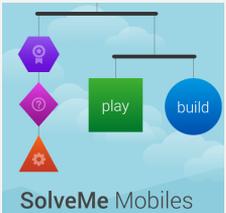


Instructions: Each day, choose from the options below. Choose as many or as few as you have time for.

	Task 1	Task 2	Task 3
Estimation	<p><u>50, 50, 50, and 50</u></p> <p>Aroon says his age is 50 years, 50 months, 50 weeks and 50 days.</p> <p>What age will he be on his next birthday?</p>	<p><u>What percent and degrees of the pie have been eaten?</u></p> 	<p><u>Walk It Out</u></p> <p>Estimate the perimeter of a room in your house. Check your answer.</p> <p>Extension. Estimate the perimeter of your yard or a nearby park.</p>
Working with Numbers	<p><u>Multiplication Practice</u> No calculators allowed!</p> <p>a) Multiplication JigSaw b) Show TWO strategies to solve : 7×15 c) A city bus made 252 stops a day. How many stops did the bus make in 37 days?</p>	<p><u>Fractions Talk</u></p> <p>Shade in one of the regions in this square. What fraction of the big square did you shade? Explain.</p> 	<p><u>Converting a Fraction to a Decimal</u></p> <p>Directions: Using the digits 1 to 9, at most one time each, place a digit in each box to make a true statement.</p> 
Activities / Puzzles	<p><u>Puzzle</u></p> <p>What is the value of the last row?</p> 	<p><u>Finding Patterns</u></p>  <p>Term 1 Term 2 Term 3</p> <p>What would term 12 look like?</p> <p>What would be the value be if green= 1, red = 3 and yellow =6?</p> <p>Can you find a general rule to find the value of any term?</p>	<p><u>Measuring Tree Height</u></p> <p>Click this link to access the activity!</p> 
Problems	<p><u>Would You Rather?</u></p> <p>Would you rather have a cube of gold that measures 25 mm on each side, or two cubes of gold, one is 24 mm per side, and one is 7 mm per side? Whichever option you choose, justify your reasoning with mathematics.</p> 	<p><u>Six Circles</u></p> <p>The perimeter of the smaller rectangle is 60cm. What is the perimeter of the large rectangle?</p> 	<p><u>Expenses For The Year</u></p> <p>Click this link to access the activity!</p> 
Technology	<p><u>SolveMe Mobiles</u></p>  <p>SolveMe Mobiles</p>	<p><u>Volume of Cylinders</u></p> <p>Go to student.desmos.com and type in the code:</p> 	<p><u>Math Is Visual – Probability</u></p> <p>Go to: http://mathisvisual.com/probability/</p> <p>Watch the video and follow along with the prompts.</p>

50, 50, 50, and 50

Aroon says his age is 50 years, 50 months, 50 weeks and 50 days.

What age will he be on his next birthday?

Solution

1 year = 12 months \approx 52 weeks and 1 month \approx 30 days

$$\begin{aligned} \text{Aroon's age} &= 50 \text{ years} + \underbrace{50 \text{ months}}_{4 \text{ years } 2 \text{ months}} + \underbrace{50 \text{ weeks}}_{\text{almost a year}} + \underbrace{50 \text{ days}}_{\text{almost 2 months}} \\ &\approx 54 \text{ years} + \text{almost a year} + 3 \text{ or } 4 \text{ months} \\ &\approx 55 \text{ years and a bit} \end{aligned}$$

So Aroon will be 56 on his next birthday.



Estimation 180

<http://www.esteemation180.com/day-112.html>



What percent *and* degrees of the pie have been eaten?



Solution

DEGREES:

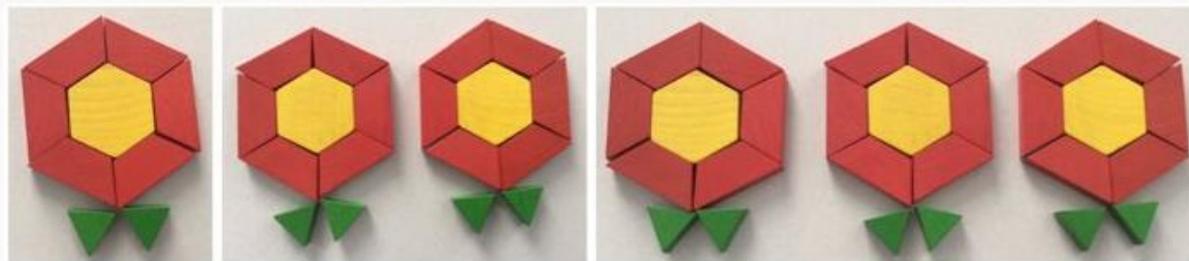
72.0°

PERCENT:

20.0 %



Finding Patterns



Term 1

Term 2

Term 3

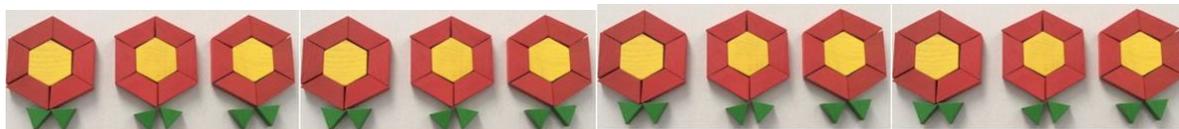
What would term 12 look like?

What would be the value be if green= 1, red = 3 and yellow =6?

Can you find a general rule to find the value of any term?

Solution

Term 12:



One possible solution:

For Term 1 would have a value of $(2 \times 1) + (6 \times 3) + (1 \times 6) = 26$

Therefore Term 12 would have a value of $26 \times 12 = 213$

General Rule: Value = $26 \times \text{term \#}$



Multiplication Table Jigsaw

a) Print a [jigsaw puzzle](https://nrich.maths.org/5573) or use the interactive link: <https://nrich.maths.org/5573>

b) Show TWO strategies to solve: **7 x 15**

Possible Strategies: $7 \times 10 = 70$; $7 \times 5 = 35$; $70 + 35 = 105$

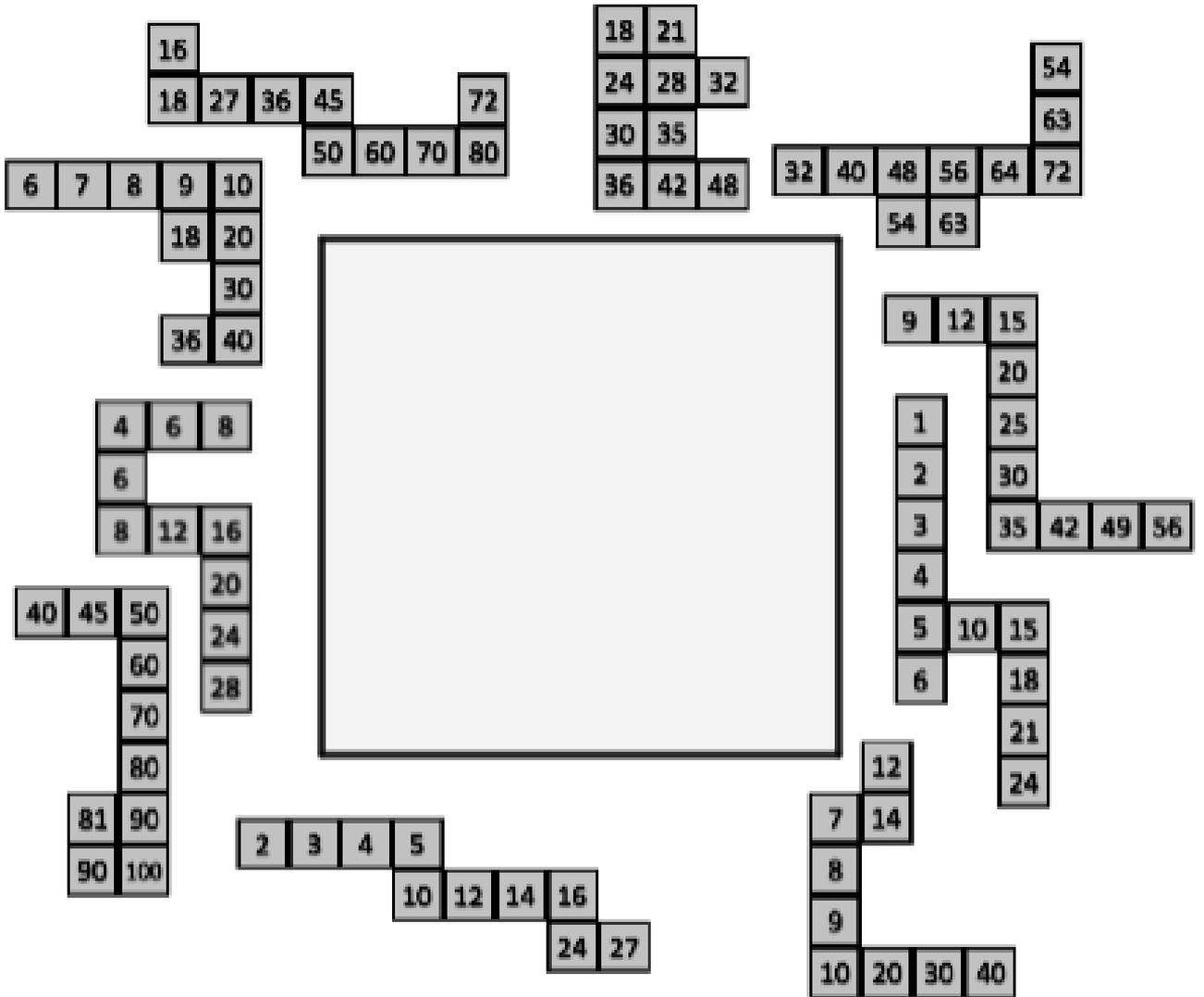
$15 \times 2 = 30$; $30 + 30 + 30 = 90$; $90 + 15 = 105$

c) A city bus made 252 stops a day. How many stops did the bus make in 37 days?

	200	50	2
30	$200 \times 30 = 6000$	$50 \times 30 = 1500$	$30 \times 2 = 60$
7	$200 \times 7 = 1400$	$50 \times 7 = 350$	$7 \times 2 = 14$

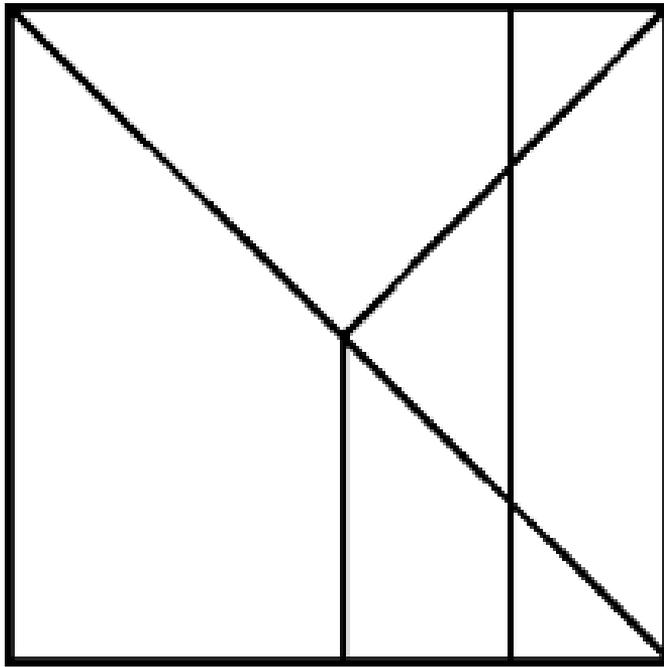
$$6000 + 1500 + 60 + 1400 + 350 + 14 = 9324$$





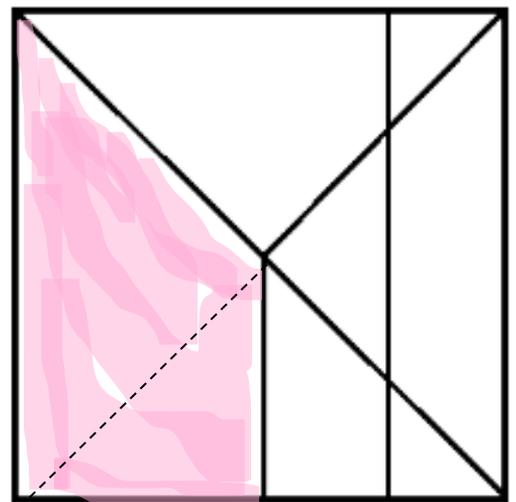
Fractions Talk

(Source: <http://fractiontalks.com/>)



Sample Solution

- The square can be divided into 4 triangles that each represent $\frac{1}{4}$ of the total area of the shape.
- The shaded area includes one of these triangles.
- The remainder of the shaded area is $\frac{1}{2}$ of $\frac{1}{4}$ of the square.
- Therefore, $\frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$



Converting a Fraction to a Decimal

Directions: Using the digits 1 to 9, at most one time each, place a digit in each box to make a true statement.

$$\frac{\boxed{}}{\boxed{}\boxed{}} = 0.\boxed{}$$

Possible Solutions

$$9/18 = 0.5$$

$$7/14 = 0.5$$

$$6/12 = 0.5$$

$$\text{And } 7/35 = 0.2$$



Puzzle

$$\text{Unicorn} + \text{Unicorn} = 24$$

What is
the value
of the
last row?

$$\text{Unicorn} + \text{Fox} = 18$$

$$\text{Fox} - \text{Owl} = 3$$

$$\text{Owl} + \text{Two Unicorns} = ?$$

Solution

Each unicorn is = 12

Fox = $18 - 12 = 6$

Owl = Fox (6) - Owl (3) = 3

Last Row = $3 + 12 + 12 = 27$



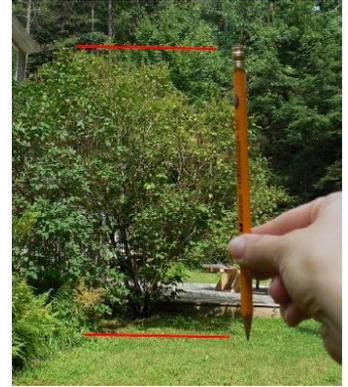
Measuring Tree Height

Outdoor STEM: Measuring Tree Height

For this activity, you will need:

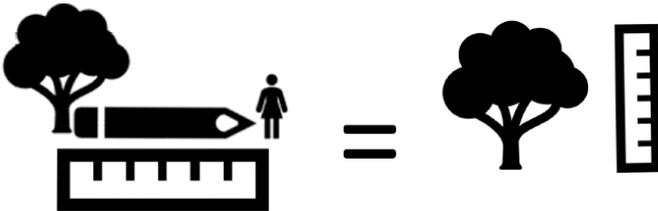
- A partner
- A pencil
- Something to measure with, like a meter stick, or a tape measure
- A tree

1. First, choose a tree to measure. One person stands near the tree, while the other walks away from it. The person walking away will also be the pencil holder.
2. As they walk further away the pencil holder should every so often hold the pencil up vertically in front of them and compare it to the height of the tree. When the bottom and top of the pencil line up with the bottom and top of the tree, the person should stop moving.
3. Now, the pencil holder will turn the pencil so that it lines up with the base of the tree horizontally. Be sure not to move your feet! The pencil holder will tell his/her partner to move away from the tree until they are lined up with the tip of the pencil.



www.shareitscience.com for www.fromabcstoacts.com 2017

4. The distance from the tree to where the partner now stands is the approximate height of the tree. You can measure this distance to find the estimated height of the tree.



5. Data collection:

Distance from base of tree to partner: _____

Therefore, the estimated height of the tree is: _____

6. Measure another! This time swap jobs with your partner.

Data collection:

Distance from base of tree to partner: _____

Therefore, the estimated height of the tree is: _____



Walk It Out

- Measure one of your feet with a ruler. Write down the measurement in inches.
- Estimate the perimeter of a room in your house.
- Check your answer:
 - Pace out the distances walking toe-to-heel, without space in between each step. Multiply the numbers of steps times your foot length to get the distance in inches.
- Estimate the perimeter of your yard or a nearby park. Check your answer.
- Challenge: Convert your measurements into the metric system.



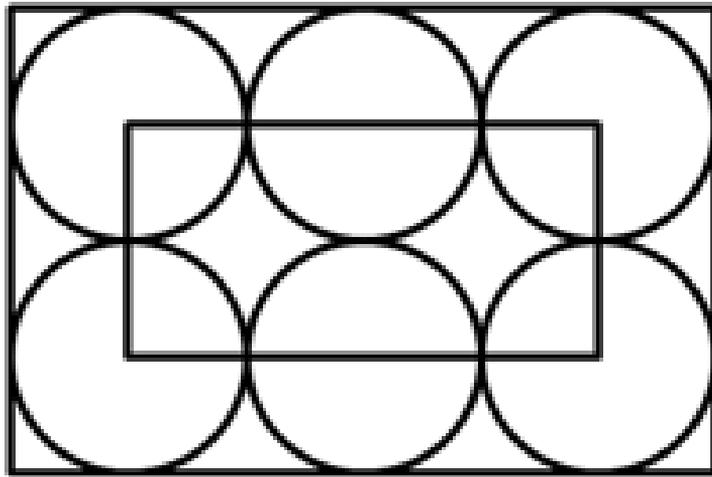
Six Circles

In the diagram, six circles of equal size touch adjacent circles and the sides of the large rectangle.

Each of the corners of the small rectangle is the centre of one of the large circles.

The perimeter of the small rectangle is 60cm.

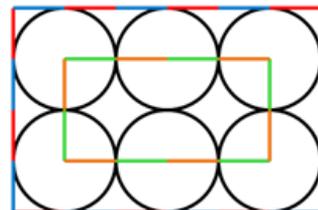
What is the perimeter of the large rectangle?



Solution

The small rectangle consists of 12 of the radii of the circles, each connecting a point of contact to the centre of the relevant circle. These are shown in green and orange in the diagram on the right.

Since this has a total length of 60cm, each radius is of length $60\text{cm} \div 12 = 5\text{cm}$.



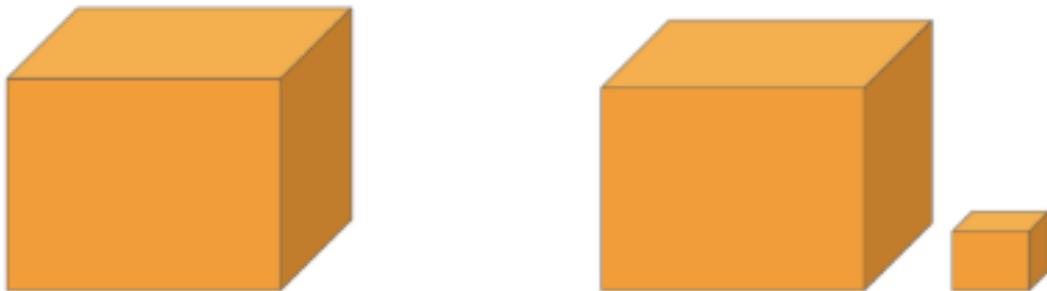
The large rectangle can also be broken down into segments of this length. These are shown in blue and red on the diagram. There are 20 of these, so the perimeter of the large rectangle is $5\text{cm} \times 20 = 100\text{cm} = 1\text{m}$.



Would You Rather?

Would you rather have a cube of gold that measures 25 mm on each side, or two cubes of gold, one is 24 mm per side, and one is 7 mm per side?

Whichever option you choose, justify your reasoning with mathematics.



Solution

$$\begin{aligned}\text{Cube 1: Volume} &= l \times w \times h \\ &= 25 \text{ mm} \times 25 \text{ mm} \times 25 \text{ mm} \\ &= 15,625 \text{ mm}^3\end{aligned}$$

$$\begin{aligned}\text{Cube 2: Volume} &= l \times w \times h \\ &= 24 \text{ mm} \times 24 \text{ mm} \times 24 \text{ mm} \\ &= 13,824 \text{ mm}^3\end{aligned}$$

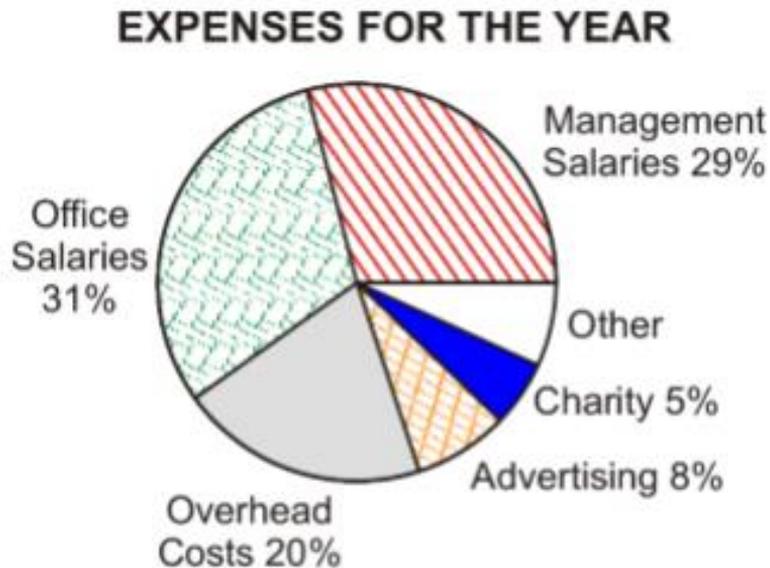
$$\begin{aligned}\text{Cube 3: Volume} &= l \times w \times h \\ &= 7 \text{ mm} \times 7 \text{ mm} \times 7 \text{ mm} \\ &= 343 \text{ mm}^3\end{aligned}$$

Total Volume of Cube 2 + Cube 3 = $13,824 \text{ mm}^3 + 343 \text{ mm}^3 = 14,167 \text{ mm}^3$. Therefore, I would rather have one cube of gold that is 25 mm on each side!

(Source: <https://www.wouldyourathermath.com/>)



Expenses for the Year



a) What percent of the company expenses was used for salaries?

b) What fraction of the company expenses is non-salary expenses?

c) If the expenses for the year total 1.5 million dollars, what percent is given to charity

Additional questions [here](#).

Source:

http://www.edugains.ca/resources/Math/CE/LessonsSupports/TIPS4RM/Grade7English/TIPS4RM_gr7_SummTask.pdf



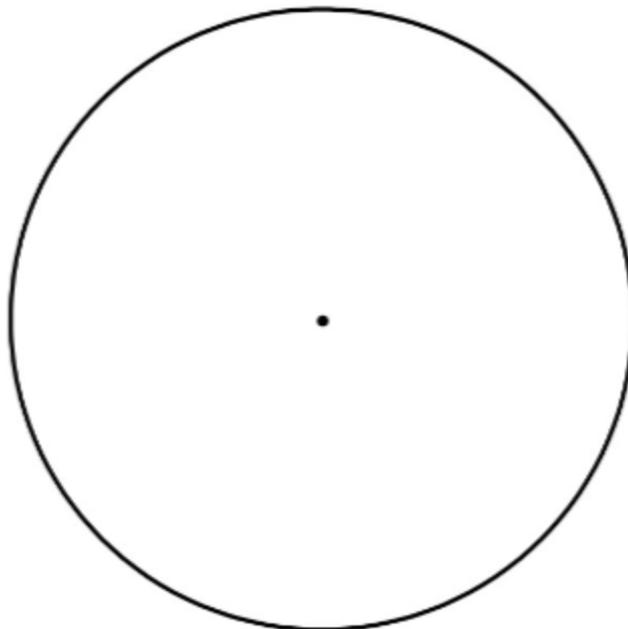
2. The Big Biz Company surveyed all employees to choose the charity to which they would like the money to be donated. Every employee replied with the name of their favourite charity.
- a) Was this a census or a sample? Explain your reasoning.

b) Explain why a circle graph is the best way to display this data.

2. c) Charity choices made by the entire staff are displayed on this frequency table.

Charity	Number of Times Chosen
Cancer Research	20
Diabetes	15
CNIB	10
Humane Society	10
Other	5

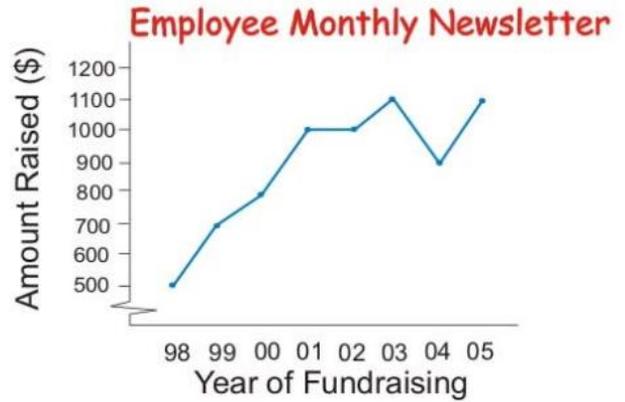
Construct a circle graph to display the data. Show your work.



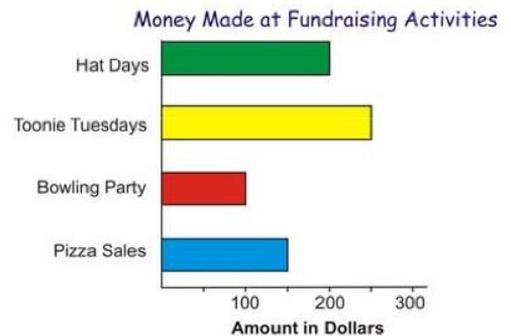
Additional questions [here](#).



3. Each year, the Big Biz employees raise money for the United Way. The company's yearly report and the Employee Monthly Newsletter produced the following graphs about the amount raised:



- a) Both graphs were produced from the same data. Explain why the graphs do not look the same. What different messages might be conveyed by these two graphs?
- b) Why is a line graph the best choice of graph to display this data?
4. The employees at Big Biz held several fundraising events to raise money. The money raised is illustrated on the bar graph.
- a) What was the most successful fundraiser?



- b) How much money was raised in total?

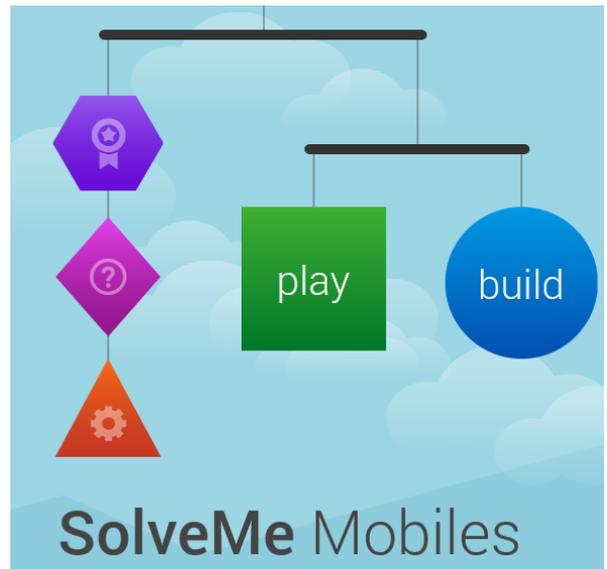


SolveMe Mobiles

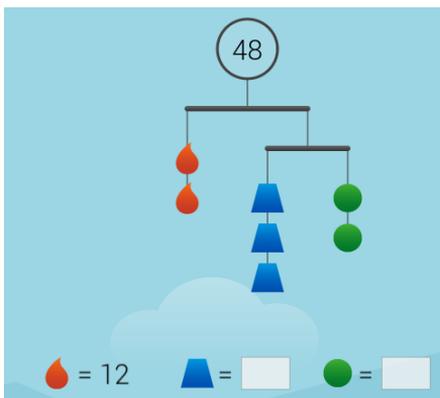
<https://solveme.edc.org/mobiles/>

Instructions

1. Go to <https://solveme.edc.org/mobiles/>
2. Click PLAY
3. Try several solve me mobiles from the explorer and puzzler section.
4. Challenge: write an equation as you are solving the mobiles



Example



$$2 \text{ red} = 3 \text{ blue} + 2 \text{ green}$$

$$2r = 3b + 2g$$

