

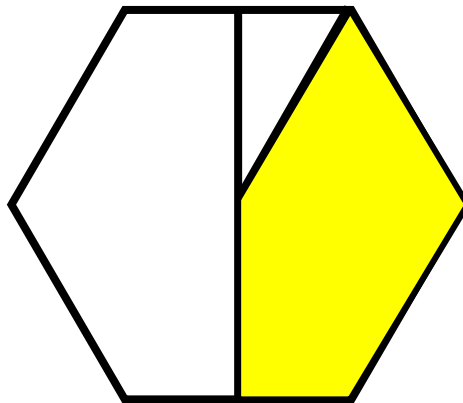
Fraction Problems

Budding Genius

1. For his party, Justin bought a Super-Duper Pizza and cut it into 24 pieces. At the party, Mary ate $\frac{1}{6}$ of the pizza, Veronica ate $\frac{1}{4}$ of it, and Ron ate $\frac{1}{3}$ of it. Justin ate the rest.

How many pieces did Justin eat?

2. A girl spent $\frac{1}{3}$ of the day sleeping, $\frac{1}{4}$ of the day at school and played for $\frac{1}{12}$ of the day. How many hours were left?
3. Ben had 7 times as many lollies as Joanna. Joanna had $\frac{3}{5}$ as many lollies as Jan. If Jan has 20 lollies, how many does Ben have?
4. What is the four digit number in which the first digit is $\frac{1}{4}$ of the last digit, the second digit is 6 times the first digit, and the third digit is the second digit plus 3?
5. What fraction of the hexagon is shaded? (Leave your answer as the simplest possible fraction.)



Genius

1. On Wednesday I ate half of a pizza. On Thursday, I ate half of what was left. On Friday I ate half of what was left from Thursday. How much was left on Saturday?
2. At a cricket match, a fifth of the spectators were in the member's enclosure, a quarter were in the public seats and the remaining 22 000 were sitting on the grass around the oval.

How many spectators were there altogether?

3. Arrange these fractions from smallest to largest.

$\frac{3}{8}$	$\frac{(3+1)}{(8+1)}$	$\frac{(3+2)}{(8+2)}$	$\frac{(3+12)}{(8+12)}$	$\frac{(3-2)}{(8-2)}$
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4. A traffic light flashes red for 50 seconds, yellow for 5 seconds, and green for 65 seconds. For what fraction of a 24-hour day is the traffic light yellow? Leave answer in lowest terms.

Super Genius

1. What number is 30 more than one quarter of itself?
2. Three equal fractions, such as $\frac{3}{6} = \frac{7}{14} = \frac{29}{58}$, use all nine digits 1, 2, 3, 4, 5, 6, 7, 8, and 9 once and only once.
Find two 2-digit numbers ab and cd so that $\frac{3}{6} = \frac{9}{18} = \frac{ab}{cd}$ also use these nine digits.
3. I cut an $8\frac{1}{2}$ by $13\frac{1}{2}$ cm sheet of paper into strips $\frac{3}{4}$ cm wide, and then place the strips end-to-end to form one long strip.

What is the longest strip that could be formed?

Mega-Genius!

1. Simplify $\frac{3}{1 + \frac{2}{2+1}}$

Fraction Problems - Dividing Pizza

SAVE THE TREES! SAVE THE TREES! SAVE THE TREES!
Please Don't Write on This Sheet. Return it at the end of the lesson.
Do all of your setting out and answers in your maths pad.

For each of the questions below, express your answer as a common fraction, in simplest form.
Hint: If you get stuck, *DRAW A DIAGRAM!*

Sam and Rebecca love pizza, and would eat it every day of the week if they could.

1. On Sunday, Sam and Rebecca had 3 pizzas to divide evenly between them. How much pizza does each get.?
2. On Monday, Sam and Rebecca had $1\frac{1}{2}$ pizzas to divide evenly between them. How much pizza does each get.?
3. On Tuesday, Sam and Rebecca had $2\frac{3}{4}$ pizzas to divide evenly between them. How much pizza does each get.?
4. On Wednesday, Sam and Rebecca had $3\frac{1}{3}$ pizzas to divide evenly between them. How much pizza does each get.?
5. On Thursday, Sam, Rebecca and their friend Brock had $4\frac{2}{3}$ pizzas to divide evenly between them. How much pizza does each get.?
6. On Friday, they ate at McDonalds.
7. On Saturday, they decided that since they hadn't had pizza for two whole days, they would have a pizza party. Altogether there were 7 people and $9\frac{3}{8}$ pizzas. How much pizza would each person get?

Finding the Rule

Rebecca's little sister, Haylee, will be having a pizza party next weekend and wants to figure out how to divide the pizza evenly. She is not sure how many friends will be coming, or how many pizzas she can afford.

Could you please write out for Haylee a set of step-by-step instructions on how to divide pizza evenly. The method should work for any number of people, and any number of pizzas.

Test your rule with these problems: $8\frac{2}{3}$ pizzas divided between 3 people;
 $1\frac{2}{7}$ pizzas divided between 5 people.

Fraction Problems - Answers

Budding Genius

1. 6 pieces 2. 8 hours 3. 84 lollies 4. 1694 5. $\frac{5}{12}$

Genius

1. $\frac{1}{8}$ 2. 40 000 3. $\frac{(3-2)}{(8-2)}$, $\frac{3}{8}$, $\frac{(3+1)}{(8+1)}$, $\frac{(3+2)}{(8+2)}$, $\frac{(3+12)}{(8+12)}$ 4. $\frac{1}{24}$

Super Genius

1. 40 2. $\frac{27}{54}$ 3. 153 cm

Mega-Genius

1. $\frac{9}{5}$

Pizza Problems

1. $1\frac{1}{2}$ 2. $\frac{3}{4}$ 3. $1\frac{3}{8}$ 4. $1\frac{2}{3}$ 5. $1\frac{5}{9}$ 7. $1\frac{19}{56}$

Finding the Rule: There are many different algorithms; $2\frac{8}{9}$; $\frac{9}{35}$