Fun with factors

One-to-12 multiplication fact table

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

SAMPLE - NOT FOR SALE

The arrows show two factors of 28. They are 4 and 7 (or 7 and 4).

1 Two factors of 56 are:

(a) 8 and 7 (or 7 and 8)

(b) 5 and 6 (or 6 and 5)

(c) 12 and 3 (or 3 and 12)

2 Two factors of 72 are:

(a) 7 and 2 (or 2 and 7)

(b) 9 and 8 (or 8 and 9)

(c) 3 and 9 (or 9 and 3)

3 Two factors of 81 are 9 and .....

(a) 11

(b) 8

(c) 9

4 Two factors of 42 are 7 and .....

(a) 6

(b) 5

(c) 12

Card 1

5 Which statement is true?

(a) Two factors of 132 are 11 and 12.

(b) Two factors of 132 are 10 and 13.

(c) Two factors of 132 are 8 and 9.

6 Two factors of 99 are 9 and .....

7 Two factors of 63 are 7 and .....

Look at the sequence below.

24, 27, 30, 33, 35

8 One number does not belong because it does not continue the sequence and does not have 3 as one factor. Which one is it?

(a) 24

(b) 30

(c) 35

9 Which number in the sequence has 9 as one factor?

(a) 27

(b) 24

(c) 33

10 Which number in the sequence has 10 as one factor?

(a) 24

(b) 30

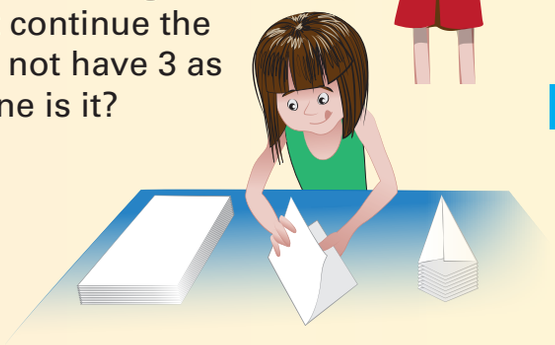
(c) 35

11 A factor is a number that divides into a larger number without leaving a .....

Solve the problems.

12 Bob is a carpenter who is making stools for a client. If one stool has four legs, how many stools will Bob be making if he needs to make forty-eight legs?

13 Each week, Tim receives twelve dollars pocket money for doing jobs around the house. He has saved one hundred and forty-four dollars towards a new computer game. How many weeks has he taken to save this amount of money?



14 Tasmyn is helping her aunt fold serviettes at her cafe. If each table needs eight serviettes, how many serviettes in total will she need to fold for seven tables?

ADDitional activity

- Did you know that you only need to know half of the facts in the one-to-12 multiplication fact table to know them all? This is because, for example, 3 × 4 is the same as 4 × 3, so you only need to know one of the pair of factors.
- Write your own one-to-12 multiplication chart. Look at all the pairs of factors like the one above. Cross out one of each pair in the bottom half of the chart. When you have crossed out one of each pair, you will have half of the factors left to learn.

SAMPLE - NOT FOR SALE

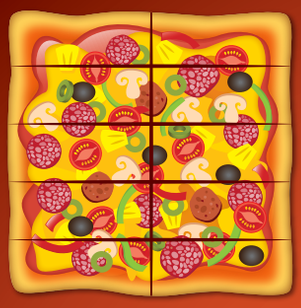
PIZZA

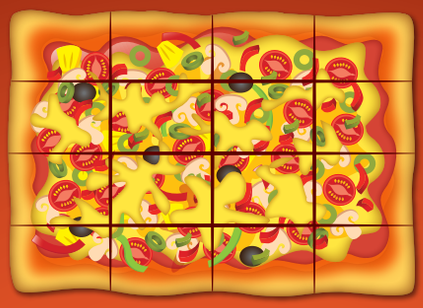
fraction order

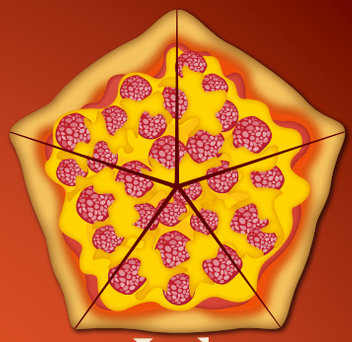
Nino

Amanda

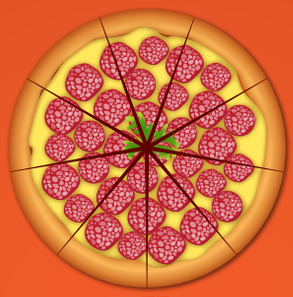
Tyson

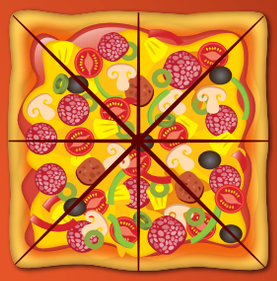

Tommy

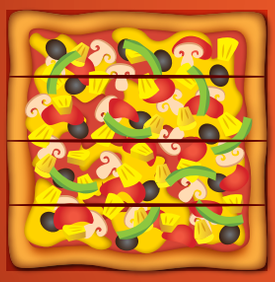

Lucy


Jack

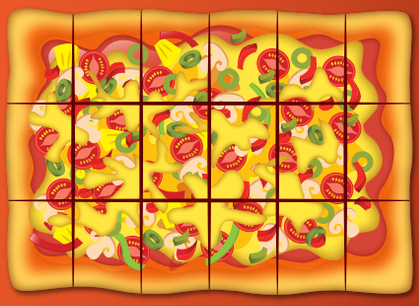
Nat


Ella


Max


Melissa

Jamie


Andre

A very fussy group of friends is having dinner at their local pizza parlour.
They each order a different pizza and ask for them to be sliced differently.
Each slice represents a unit fraction of their pizza.

1 Whose pizza is cut into the greatest number of slices?

(a) Tyson (b) Andre (c) Lucy

2 **True** or **False**?

$\frac{1}{16}$ is the smallest unit fraction that one slice of pizza represents.

SAMPLE - NOT FOR SALE

Card 1

3 What fraction is one slice of Jack's pizza?
(a) $\frac{1}{6}$ (b) $\frac{1}{5}$ (c) $\frac{1}{4}$

4 **Yes** or **No**?
Are Max and Ella's pizzas both cut into eighths?

5 Who ordered a pizza where one slice represents $\frac{1}{16}$?

6 One slice of .....'s pizza is $\frac{1}{7}$.

Greater than or less than?

7 One slice of Max's pizza as a fraction is ..... one slice of Melissa's pizza as a fraction.

8 One slice of Tyson's pizza as a fraction is ..... one slice of Jamie's pizza as a fraction.

9 One slice of Nino's pizza as a fraction is ..... one slice of Ella's pizza as a fraction.

10 One slice of Andre's pizza as a fraction is ..... one slice of Lucy's pizza as a fraction.

11 How many slices of pizza is $\frac{1}{4}$ of Tyson's pizza?

12 How many slices of pizza is $\frac{1}{2}$ of Andre's pizza?

13 Using the friends' names, which is the correct order of pizza fractions from smallest to largest fraction?
(a) Amanda, Jack, Nino
(b) Max, Melissa, Nat
(c) Lucy, Andre, Tommy

14 Using the friends' names, which is the correct order of pizza fractions from largest to smallest fraction?
(a) Andre, Jack, Nat
(b) Ella, Tommy, Lucy
(c) Melissa, Max, Jamie

ADDitional activities

- Write the names of all the pizza owners from greatest fraction to smallest fraction.
- Work out the patterns below, and solve each missing fraction:

$\frac{1}{3}, \frac{1}{6}, \ldots\ldots, \frac{1}{24}$

$\ldots\ldots, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}$

$\frac{1}{40}, \ldots\ldots, \frac{1}{10}, \frac{1}{5}$

$\frac{1}{56}, \frac{1}{28}, \frac{1}{14}, \ldots\ldots$

SAMPLE - NOT FOR SALE

SCHOOL FETE FINANCES

Merrick Valley School is planning a school fete to raise funds to buy equipment for the school.

As part of the fundraising activities, all classes will have a stall which they will stock with saleable goods. Some stalls will be stocked with donated goods. All money raised from these stalls will be income with no expenditure for materials or ingredients. All the money raised from these stalls becomes the profit.

Other stalls, however, will be stocked with goods that have been made with materials bought by the students. The amount of money raised will depend on the cost of buying materials and how much the goods are sold for. These stalls will have some expenditure and some income. The profit is the income minus any expenditure.

Mrs Bowen's Year 5 class are making iced cupcakes for the cake stall. They are buying all the ingredients and making them in class on the morning of the fete.

They have decided to package and sell the cupcakes individually, in pairs, and in boxes of six. They plan to make six dozen cupcakes.

The total cost of the ingredients was $18.60.

SAMPLE - NOT FOR SALE

1. If the total income from the sale of all the cupcakes was $36.00, what profit was made?
   (a) $17.40
   (b) $54.60
   (c) $48.20

2. If all the cupcakes were sold individually for 60c each, what would the income be?

3. If all the cupcakes were sold in pairs for $1, what would the income be?
   (a) $43.20
   (b) $36.00
   (c) $54.80

4. Which method of selling would provide the greatest income from the cupcakes—selling individually or selling in packs of two?

5 If all the cupcakes were sold in boxes of six for $2.40 per box, what would the income be?

(a) $44.50

(b) $36.20

(c) $28.80

If all the ingredients were donated by the parents, ...

6 ... what would the income be for individual cupcakes sold for 60c each?

7 ... what would the profit be?

8 ... what would the profit be if all cupcakes were sold in pairs for $1.50 a pair?

9 ... what would the profit be if all the cupcakes were sold in boxes of six for $3.50 per box?

(a) $28.80

(b) $252.00

(c) $42.00

10 **More** or **less**?

Using donated ingredients is ..... profitable than purchasing ingredients.

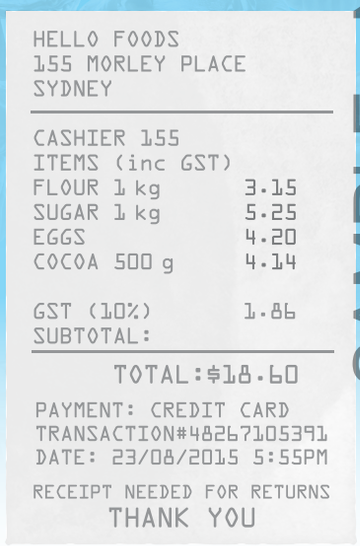
Some of the parents cooked and donated large cakes and loaves to support the school.

11 If sixteen parents donated one large cake each, which sold for $5.50 each, how much income did this contribute to the profit for the class cake stall?

12 What profit would the cake stall make if the class bought the ingredients, sold all the cupcakes individually for 60c each, and twenty parents each donated one large cake or loaf which sold for $5.50 each?

13 The parents and citizens association agreed to finance each class stall with an initial donation of $20.00 towards the cost of materials or ingredients. Any excess not used was added to the profit for that stall. What amount did the cake stall have to add to it?

14 What extra cost was included in the cost of the ingredients when they were purchased by the teacher for the class?


HELLO FOODS
155 MORLEY PLACE
SYDNEY

CASHIER 155
ITEMS (inc GST)
FLOUR 1 kg 3.15
SUGAR 1 kg 5.25
EGGS 4.20
COCOA 500 g 4.14

GST (10%) 1.86
SUBTOTAL:

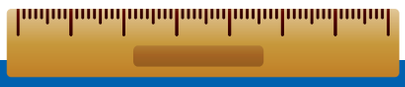
TOTAL:$18.60

PAYMENT: CREDIT CARD
TRANSACTION#4826710539 1
DATE: 23/08/2015 5:55PM

RECEIPT NEEDED FOR RETURNS
THANK YOU

SAMPLE - NOT FOR SALE

ADDITIONAL ACTIVITIES



- Review Question 12. List the different operations and written and mental strategies you used to calculate your answer.
- Select ten different amounts mentioned in the questions. Draw up a decimal money table with the headings tens, ones, tenths and hundredths at the top of the columns. Write the amounts in order from largest to smallest in the correct columns. (Don't forget to add a column for the decimal point!)