






1) Complete the table below.



Calculation	Rounded Calculation	Estimated Answer	Actual Answer
$5671 + 5671$			
$2483 + 4382$			
$6189 - 3407$			
$6719 - 1588$			

- 2) a) Look at the table below. It shows the type and quantity of food that is used each day to feed the animals at Twinkl Zoo. Use rounding to work out the approximate quantity of each food fed to the animals over 5 days.

Day of the Week			
	Fish	Meat	Fruit and Vegetables
Monday	12 056g	25 789g	10 001g
Tuesday	22 307g	17 663g	15 774g
Wednesday	9946g	8093g	12 025g
Thursday	28 570g	12 551g	27 350g
Friday	7009g	18 904g	10 888g
Approximate Total			

- b) What is the approximate quantity of food fed to the animals on Monday?
- c) What is the approximate difference between the amount of food fed to the animals on Tuesday and the amount of food fed to the animals on Friday?
- d) The approximate quantity of fruit and vegetables fed to the animals on Friday and Saturday came to a total of 17 000g. Estimate the quantity of fruit and vegetables that was fed to the animals on Saturday.



- 1) Freddy has rounded this calculation in order to work out the approximate answer. Spot and explain his mistake.



$$35\,039 + 3002$$

$35\,039 \approx 35\,000$
$3002 \approx 4000$
$35\,000 + 4000 = 39\,000$

- 2) a) Use the column method to work out the answer to the calculation below.

$$71\,382 - 20\,939 =$$

- b) The children were looking at the calculation above and using rounding to work out an approximate answer. Work out the answer to each child's calculation below.



Cassie

$$71\,000 - 21\,000 =$$



Paulo

$$71\,400 - 21\,900 =$$

$$70\,000 - 20\,000 =$$



Azma

$$71\,380 - 20\,940 =$$



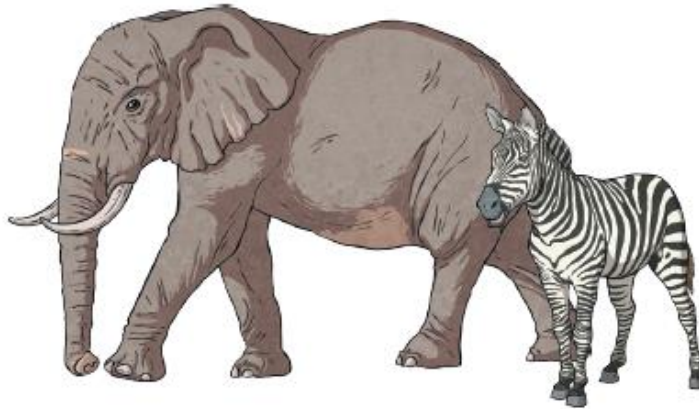
Tommy

- c) Whose is the closest approximation? Whose calculation is the quickest to solve? Explain why.

- 1) The children from Twinkl Academy will be going on a school trip to the zoo. There are 20 children in each class and 5 classes will be going.



Cost of Entrance Ticket	£12.95
Cost of Lunch	£5.32
Cost of Bus	£9.58
Cost of Souvenir	£1.99

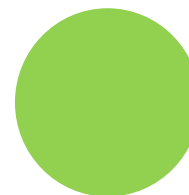


- a) What is the approximate cost for one child to go?
 - b) What is the approximate cost for a class to go?
 - c) What is the approximate cost for the whole school to go?
 - d) Mrs Leech, the headteacher, has managed to get the entrance tickets to the zoo for half price. Calculate approximately how much it will now cost to take the whole school to the zoo.
- 2) Anne added two 4-digit numbers together. Neither number ended in a 0. She rounded the numbers to help estimate the answer. Her estimated answer was 7500. What could her two starting numbers have been? Find 5 possibilities.

ANSWERS

1)

Calculation	Rounded Calculation	Estimated Answer	Actual Answer
$5671 + 5671$	$6000 + 6000$	$12\ 000$	$11\ 342$
$2483 + 4382$	$2000 + 4000$	6000	6865
$6189 - 3407$	$6000 - 3000$	3000	2782
$6719 - 1588$	$7000 - 2000$	5000	5131



2) a)

Day of the Week	Fish	Meat	Fruit and Vegetables
Monday	12 056g	25 789g	10 001g
Tuesday	22 307g	17 663g	15 774g
Wednesday	9946g	8093g	12 025g
Thursday	28 570g	12 551g	27 350g
Friday	7009g	18 904g	10 888g
Approximate Total	$80\ 000g$	$84\ 000g$	$76\ 000g$

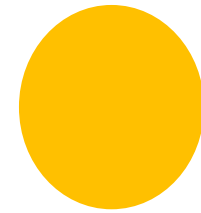
b) $48\ 000g$

c) $19\ 000g$

d) $6000g$

- 1) Freddy has rounded the number 3002 incorrectly. He rounded up to 4000, when he should have rounded down to 3000. 3002 is much closer to 3000 than 4000 on the number line.

The calculation should be $35\ 000 + 3000 = 38\ 000$ to give an approximate answer.



2) a) $71\ 382 - 20\ 939 = 50\ 443$

$$\begin{array}{r} \\ 7 \cancel{1} \cancel{3} \cancel{8} \cancel{2} \\ - 2 \\ \hline 5 \end{array}$$

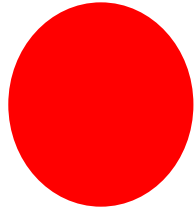
b) Cassie: 50 000

Paulo: 49 500

Azma: 50 000

Tommy: 50 440

- c) Tommy's is the closest approximation because he has rounded each number to the nearest ten. However, Cassie and Azma's calculations are the quickest to solve because they are rounded to one of the highest place values. This does mean that their approximated answers are not as close to the actual answer as Tommy's.

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- 1) a) £30
b) £600
c) £3000
d) £2400

Also accept £2300 as children may have either found half of the actual price of a ticket first before rounding ($£6.475 \approx 6$) or half of the rounded price ($£6.50 \approx 7$).

- 2) *Look for children using a systematic approach. Multiple answers are possible. Example answers:*

$$1985 + 5501$$

$$1986 + 5502$$

$$1987 + 5503$$

$$1988 + 5504$$

$$1989 + 5505$$