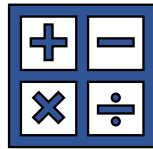


20.

Rounding Off



SUBJECT: MATHEMATICS

Name:

Rounding Off



What is rounding off?

Rounding means making a number simpler but keeping its value close to what it was. The result is less accurate, but easier to use. Example: 73 rounded to the nearest ten is 70, because 73 is closer to 70 than to 80.

When do we use rounding off in everyday life?

- To do calculations in our heads, e.g. when we are shopping, when we go to a take-away, when we go to the pub, etc. Rounding means we can have an idea what we will pay in each case.
- To get an estimate, e.g. if we were discussing census results, we may round off so that numbers are not so complicated.

Many people use rounding in everyday situations because it is usually easier and more understandable to say a rounded number than to say an exact value.

Example:

235 to the nearest 10 is 240

(If the units digit is 5 or above, it goes up to the next ten. If the units digit is under 5, go down to the same ten.)

1. Circle the units in each of these numbers:



2. Revise: Write these numbers into the correct columns. Look at the example.

- a) 329
- b) 82
- c) 15
- d) 964
- e) 73

- f) 510
- g) 29
- h) 806
- i) 400
- j) 191



Example: 681

Hundreds	Tens	Units
6	8	1
a)		
b)		
c)		
d)		
e)		
f)		
g)		
h)		
i)		
j)		

3. Underline the units in each number. Round the numbers to the nearest 10:

a) 465 _____

e) 834 _____

b) 945 _____

f) 391 _____

c) 902 _____

g) 498 _____

d) 123 _____

h) 854 _____

4. Read the ingredients for carrot cake. Round the underlined amounts to the nearest 10.

Carrot Cake

- 265g chopped pecan nuts _____
- 312g brown sugar _____
- 103g white sugar _____
- 246ml melted coconut oil _____
- 4 large eggs
- 133g smooth applesauce _____
- 7 ml vanilla essence _____
- 314g flour _____
- 11ml baking powder _____
- 2ml salt _____
- 8ml ground cinnamon _____
- 1 teaspoon ground ginger
- 1/4 teaspoon ground nutmeg
- 1/4 teaspoon ground cloves
- 269g grated carrots _____



Rounding to the nearest 100

If the tens digit is 5 or above, it goes up to the next hundred.
If the tens digit is under 5, go down to the same hundred.



Example:

678 to the nearest 100 is 700

Look at the tens' column – it's 5 or above, so it goes up to the next hundred - 700

5. Underline the tens in each number. Round the numbers to the nearest 100:

a) 125 _____

b) 96 _____

c) 919 _____

d) 728 _____

e) 53 _____

f) 353 _____

g) 980 _____

h) 263 _____



6. Round the numbers to the nearest 100:

Green Punch

- 85g lime flavoured jelly mix
- 946ml hot water
- 677ml pineapple juice
- 412ml orange juice
- 255 ml sugar
- 849ml cold water
- 888ml ginger ale

A green punch drink in a martini glass with a lime wedge and a green straw. A pair of scissors is shown above the list, indicating where to cut out the recipe.



Rounding to the nearest 1000

If the hundreds digit is 5 or above, it goes up to the next thousand. If the hundreds digit is under 5, go down to the same thousand.

Example:

6,782 to the nearest 1,000 is 7,000

Look at the hundreds' column – it's 5 or above, so it goes up to the next thousand – 7,000

7. Write these numbers into the correct columns. Look at the example.

- a) 4892
- b) 2681
- c) 9045
- d) 3170
- e) 2003

- f) 7000
- g) 8391
- h) 999
- i) 5906
- j) 1001



Example: 1592

	Thousands	Hundreds	Tens	Units
	1	5	9	2
a)				
b)				
c)				
d)				
e)				
f)				
g)				
h)				
i)				
j)				

8. Write these numbers to the nearest 1000:

a) 1107_____

e) 2238_____

b) 7893_____

f) 2935_____

c) 8345_____

g) 1469_____

d) 4688_____

h) 9284_____

1. You are having a barbecue for about 35 people. Round off the numbers to the nearest 1000:

FOOD AND DRINK
FOR THE BARBECUE

- a) 3750 g minced beef for burgers
- b) 2,975 g steak
- c) 7,360 g sausages
- d) 4535 g of potatoes for potato salad
- e) 5072 ml beer
- f) 6800 ml wine
- g) 9100 ml juice
- h) 8932 g ice



a) _____

e) _____

b) _____

f) _____

c) _____

g) _____

d) _____

h) _____

When rounding larger numbers...

If you are rounding to the nearest 10, you look at the units.
If you are rounding to the nearest 100, you look at the tens' column, etc.

So, you always look at the column just before the number you wish to round to.

So, if you want to round to the nearest ten thousand (10000), then you look at the thousands' column. If the number is 5 or above, you go up to the next ten thousand. If the number is below, you go down to the same ten thousand.

Similarly, if you want to round to the nearest million, you will look at the hundred thousand column!



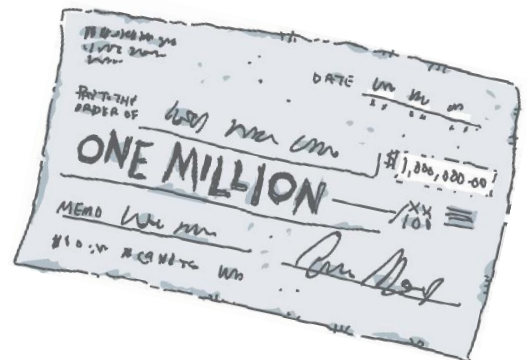
Example:

2 675 105 to the nearest million

Look at the hundred thousand' column – it's 5 or above, so it goes up to the next million – 3 000 000

2. Round these numbers to the nearest million:

- a) 8935514 _____
- b) 1215081 _____
- c) 6875834 _____
- d) 108671 _____
- e) 798008 _____



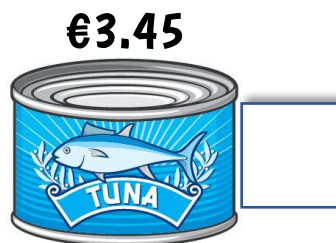
Rounding to the nearest euro

Round down for a euro amount that has 0 to 49 cents. For example, €89.27 rounds down to €89.

Round up for euro amounts that have 50 to 99 cents. For example, €53.52 rounds up to €54.



11. Circle the cents in these amounts. Draw a \uparrow if it will round up and draw a \downarrow if it will round down to the nearest euro.



12. Round these euro amounts to the nearest euro:

a) €58.42 _____

g) €7.59 _____

b) €3.76 _____

h) €43.29 _____

c) €73.91 _____

i) €99.47 _____

d) €14.85 _____

j) €1.63 _____

e) €24.84 _____

k) €4.35 _____

f) €8.50 _____

l) €6.12 _____

1. Round off these prices and give an estimate for the total cost:



Your estimate: _____

Now use your calculator to work out the exact amount:



14. Jackie bakes cakes and sells them. The selling price of each cake is €10.46. She rounds the cost of each cake to the nearest euro for her customers. What does she charge her customers per cake? _____

15. Work out these rounding problems.

a) A restaurant manager rounds the numbers of meals served in one year to 36000 meals.

Which could be the number of meals served if the manager rounded to the nearest thousand?



Choose all answers that apply:

- 36,400
- 35,800
- 36,700

b) A café nearby served 64,436 coffees in one year. Round the number of coffees to the nearest thousand.

----- coffees



c) A bakery rounds the number of kilograms of flour used to 800,000 grams.



Which could be the number of kilograms of flour rounded to the nearest hundred thousand?

Choose all answers that apply:

- 775,612
- 849,212
- 851,000

d) You have 735 ml of milk to make pancakes. Round this to the nearest ten.

700 ml

800 ml

740 ml



e) It takes about 2179 seconds to make the stew. What is this time rounded to the nearest hundred?

- 2100 seconds
- 2200 seconds
- 2300 seconds
- 2700 seconds



f) The shop sold 429 cartons of milk yesterday morning. about how many cartons of milk were sold? Round to the nearest ten.

- 420
- 400
- 300
- 430

g) Which number does NOT round to 200 when it is rounded to the nearest hundred?

- 162
- 175
- 235
- 253

h) My recipe book is 1287 pages long. About how many pages is this? Round to the nearest thousand.

- 1290
- 1300
- 1000



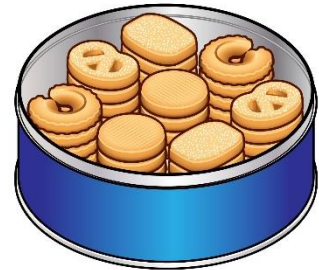
i) The first week, my shopping cost €96 and the second week it was €107. About how much did I spend in the two weeks?

€100

€150

€200

j) There are 84 biscuits in one tin. How many biscuits are there, rounded to the nearest ten?



16. Round the numbers in these situations below. You can choose whether you want to round it to the nearest unit, 10, 100, 1000, etc.

In brackets, write what you rounded it to.

Example: 172°C → 200°C (100)

a) I boiled the egg for 19.65 minutes!

b) Bake the pie for about 47 minutes.

c) I used 389 g of cocoa for the chocolate cake.

d) I spent €213 on grocery shopping.

e) The town had a population of 10,427.

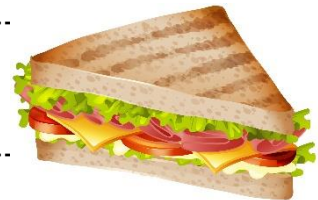


f) The restaurant bill was €74.99.

g) The waitress worked for 185 minutes.

h) There are 14,641 boxes in the warehouse.

i) The sandwich bar sold 505 sandwiches.



j) The parking garage has spaces for 8,952 cars.

k) I am forty-nine years, two months and seven days, old.

l) The big bag of sugar weighs 22.8 kg.

m) The farmer had 6,275 chickens.

n) The recipe makes 23 muffins.

o) You made 812 ml of fruit smoothie.



17. Complete the crossword:



ACROSS

- 3 Round 105845 to the nearest 1000
- 5 Round 5856265 to the nearest 10
- 6 Round 234899 to the nearest 10000

DOWN

- 1 Round 4532 to the nearest 100
- 2 Round 7762441 to the nearest 1000000
- 4 Round 9508 to the nearest 10

