

- 1) Round these numbers as indicated:

- a) 59 to nearest 10
- b) 32 to nearest 10
- c) 124 to nearest 10
- d) 231 to nearest 100
- e) 894 to nearest 100
- f) 1512 to nearest 1000
- g) 5453 to nearest 1000

- 2) Estimate these by rounding up or down to nearest 10 or 100 first, like these examples:

$$42 \times 8 \approx 40 \times 10 = 400$$

and...

$$95 \times 326 \approx 100 \times 330 = 33,000$$

a)  $29 \times 41$

b)  $124 \times 173$

c)  $48 \div 11$

d)  $104 \div 11$

e)  $193 \times 34$

f)  $159 \div 12$

- 3) Round one or more numbers in each of these scenarios to the nearest 10 to work them out.

- a) A digger can scoop 29 scoops per hour and work 7 days a week.

Approximately how many scoops can be dug over 10 days?

- b) Most of the pens at the stockyard are full of sheep. There are 55 pens and one of the pens has 22 sheep. Give an estimate of the total number of sheep at the stockyard.

- c) A whole year group of 159 students is roughly divided into 19 groups. Estimate the number in each group.

- 4) Rounding numbers in order to do your calculation more easily will often mean that there is a margin of 'error'. That is, an amount left out or added in because of the rounding. For example, when rounding both numbers to the nearest 10 like this:

$$71 \times 11 \approx 70 \times 10 \text{ we get } 700, \text{ but } 71 \times 11 \text{ is } 781, \text{ so the error is } 81.$$

Now calculate the error in these if both numbers are rounded to the nearest 10 before calculating (I have done the first one for you):

- a)  $23 \times 17 \approx 20 \times 20 = 400$   
 $23 \times 17 = 391$   
error is 9

b)  $23 \times 24$

c)  $65 \times 54$

d)  $67 \times 56$

- e) Why do you think the error is much less in a) and c), than in b) and d)?