



# Mini-task: Estimating (1)

Rounding numbers to estimate answers to calculations

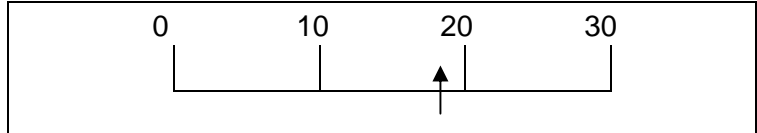
You can round numbers to the nearest 10 or the nearest 100 to help work out calculations.

1. Round these numbers *to the nearest 10*:

Example: 19 20

If it helps, think about the number on a number line:

- Q** 1(a) 32 \_\_\_\_\_
- Q** 1(b) 48 \_\_\_\_\_
- Q** 1(c) 61 \_\_\_\_\_
- Q** 1(d) 97 \_\_\_\_\_

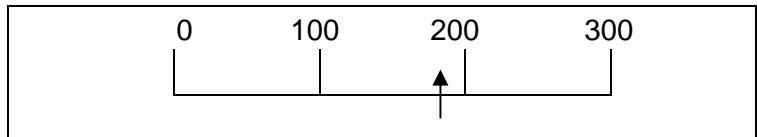


2. Round these numbers *to the nearest 100*:

Example: 180 200

Again, you might find thinking of a number line helpful:

- Q** 2(a) 230 \_\_\_\_\_
- Q** 2(b) 480 \_\_\_\_\_
- Q** 2(c) 169 \_\_\_\_\_
- Q** 2(d) 878 \_\_\_\_\_



3. Round these numbers to the nearest 10 to help you estimate the answer to the calculation:

Example:  $47 + 69$   $50 + 70 = 120$

*The answer will be slightly less than 120 as we rounded both the numbers up, so this estimated answer will be bigger than the actual answer.*

- Q** 3(a)  $23 + 76$  \_\_\_\_\_
- Q** 3(b)  $47 + 99$  \_\_\_\_\_
- Q** 3(c)  $71 - 18$  \_\_\_\_\_
- Q** 3(d)  $97 - 39$  \_\_\_\_\_

Use the same idea to help you work out approximate totals in money:

- Q** 3(e)  $22p + 44p + 69p$  \_\_\_\_\_
- Q** 3(f)  $£3.09 + £1.89$  \_\_\_\_\_
- Q** 3(g)  $£10 - £2.58$  \_\_\_\_\_
- Q** 3(h)  $£20 - £3.50 - 61p - 47p$  \_\_\_\_\_

4. Use rounding numbers to the nearest 10 to help you when you are multiplying numbers.

Example:  $6 \times 81$  rounding 81 to the nearest 10 we get:  
 $6 \times 80$   
 $6 \times 8 = 48$ , so  $6 \times 80 = \mathbf{480}$

- Q** 4(a)  $8 \times 28$  \_\_\_\_\_
- Q** 4(b)  $49 \times 6$  \_\_\_\_\_
- Q** 4(c)  $9 \times 71$  \_\_\_\_\_
- Q** 4(d)  $7 \times 32$  \_\_\_\_\_

Note: you can use the same basic approach to multiply bigger numbers together

Example:  $21 \times 49$  rounding to the nearest 10 we get roughly:  
 $20 \times 50 \rightarrow 2 \times 50 = 100 \rightarrow 20 \times 50$  will be ten times bigger i.e. 1000

- Q** 4(e)  $81 \times 28$  \_\_\_\_\_
- Q** 4(f)  $49 \times 61$  \_\_\_\_\_
- Q** 4(g)  $32 \times 71$  \_\_\_\_\_
- Q** 4(h)  $97 \times 21$  \_\_\_\_\_

5. Use rounding numbers to the nearest 10 to help you when you are dividing numbers.

Example:  $121 \div 4$  rounding 121 to the nearest 10 we get:  
 $120 \div 4$

Use what you know about multiplication tables to help you:  
 $3 \times 4 = 12$ , so  $\mathbf{30} \times 4 = 120$   
 So the answer to  $121 \div 4$  will be roughly 30

- Q** 5(a)  $89 \div 3$  \_\_\_\_\_
- Q** 5(b)  $160 \div 4$  \_\_\_\_\_
- Q** 5(c)  $282 \div 4$  \_\_\_\_\_
- Q** 5(d)  $479 \div 6$  \_\_\_\_\_

6. You can also use some other common links between numbers to help you estimate answers to calculations.

Think about how you can use the facts from the box to help you estimate the answers to the calculations below:

$2 \times 50 = 100$	$4 \times 25 = 100$
$3 \times 33$ is approximately 100	$5 \times 20 = 100$ (think about five 20 pence pieces in a £)

Example:

<u>Calculation</u>	<u>Approximate calculation and approach</u>	<u>Estimated answer</u>
$24 \times 9$	$25 \times 9$ $25 \times 4 = 100$ $25 \times 4 = 100$ $25 \times 1 = 25$	
	$25 \times 9 = 225$	<b>225</b>

<u>Calculation</u>	<u>Approximate calculation and approach</u>	<u>Estimated answer</u>
--------------------	---	-------------------------

**Q 6(a)** A chocolate bar costs 26p.  
How much will 8 bars cost?

**Q 6(b)** There are around 33 children in each class.  
How many in 6 classes?

**Q 6(c)** I save spare 20 pence pieces in a jar.  
How many will I need to make £5?

**Q 6(d)** My hens each lay about 6 eggs in a week.  
How many eggs do they lay in a year (52 weeks)?

**Q 6(e)** Drinks cost 24p each.  
How many can my group get for £5 (500p)?

**Q 6(f)** How much is £197 divided between 5 people?

## Estimating – Answer sheet

**Q 1.** The numbers to the nearest 10 are:

1(a)	32	<u>30</u>
1(b)	48	<u>50</u>
1(c)	61	<u>60</u>
1(d)	97	<u>100</u>

**Q 2.** The numbers to the nearest 100 are:

2(a)	230	<u>200</u>
2(b)	480	<u>500</u>
2(c)	169	<u>200</u>
2(d)	878	<u>900</u>

**Q 3.** Approximate answers are:

3(a)	23 + 76	<u>20 + 80 = 100</u>
3(b)	47 + 99	<u>50 + 100 = 150</u>
3(c)	71 - 18	<u>70 - 20 = 50</u>
3(d)	97 - 39	<u>100 - 40 = 60</u>

3(e)  $22p + 44p + 69p$        $20 + 40 + 70 = 130p = £1.30$

3(f)  $£3.09 + £1.89$        $£3 + £2 = £5$

3(g)  $£10 - £2.58$        $£10 - £2.60 = £7.40$

(Or it might be easier to round £2.58 to 2.50. So the approx answer would be £7.50)

3(h)  $£20 - £3.50 - 61p - 47p$        $£3.50 + 60p + 50p = £4.60$   
 $£20 - £4.60 = £15.40$

**Q 4.** Approximate answers are:

4(a)	$8 \times 28$	<u><math>8 \times 30 = 240</math></u>
4(b)	$49 \times 6$	<u><math>50 \times 6 = 300</math></u>
4(c)	$9 \times 71$	<u><math>9 \times 70 = 630</math></u>
4(d)	$7 \times 32$	<u><math>7 \times 30 = 210</math></u>
4(e)	$81 \times 28$	<u><math>80 \times 30 = 2400</math></u>
4(f)	$49 \times 61$	<u><math>50 \times 60 = 3000</math></u>
4(g)	$32 \times 71$	<u><math>30 \times 70 = 2100</math></u>
4(h)	$97 \times 21$	<u><math>100 \times 20 = 2000</math></u>

**Q 5.** Approximate answers are:

5(a)	$89 \div 3$	<u><math>3 \times 3 = 9</math>, so <math>3 \times 30 = 90</math></u>	So, approx answer to $89 \div 3$ is <b>30</b>
5(b)	$160 \div 4$	<u><math>4 \times 4 = 16</math>, so <math>4 \times 40 = 160</math></u>	So, approx answer to $160 \div 4$ is <b>40</b>
5(c)	$282 \div 4$	<u><math>4 \times 7 = 28</math>, so <math>4 \times 70 = 280</math></u>	So, approx answer to $282 \div 4$ is <b>70</b>
5(d)	$479 \div 6$	<u><math>6 \times 8 = 48</math>, so <math>6 \times 80 = 480</math></u>	So, approx answer to $479 \div 6$ is <b>80</b>

**Q 6. Calculation**

	Approximate calculation and approach	Estimated answer
6(a) $24p \times 8$	$25 \times 4 = 100$ So $24 \times 8 = 200$	£2.00
6(b) $33 \times 6$	$33 \times 3$ is nearly 100; So $33 \times 6$ is about 200	200 children
6(c) How many 20p in £5?	$£1 = 20p \times 5$ $5 \times £5 = 25$	25 coins
6(d) $6 \times 52$	$6 \times 5 = 30$ So $6 \times 50 = 300$	300 eggs
6(e) How many 24p in £5?	$£1 = 25p \times 4$ $4 \times £5 = 20$	20 drinks
6(f) $£197 \div 5$	$£20 = 5 \times 4$ So $£200 = 5 \times 40$	£40 each