

# Subtraction mental strategies – compensation strategy

Sometimes we round one number in the problem to make it easier to do in our heads. Then we adjust our answer to compensate:

$$486 - 59 = \boxed{427}$$

$$486 - 60 \text{ (+1)} \quad \text{I rounded up by 1, which means I subtracted}$$

$$426 \text{ (+1)} = 427 \quad \text{1 extra so we need to add 1 back.}$$

I took off 1 extra so I have to add 1 back.



**THINK**

**1** Round these numbers to the closest ten. Then compensate by subtracting or adding to get back to the first number. The first one is done for you.

a  $93 = 90 + 3$

b  $48 = \underline{\hspace{2cm}}$

c  $52 = \underline{\hspace{2cm}}$

d  $76 = \underline{\hspace{2cm}}$

e  $57 = \underline{\hspace{2cm}}$

f  $37 = \underline{\hspace{2cm}}$

g  $27 = \underline{\hspace{2cm}}$

h  $68 = \underline{\hspace{2cm}}$

**2** Solve these subtraction problems using compensation. Show all your working out:

a  $585 - 78 = \boxed{\hspace{2cm}}$

b  $894 - 71 = \boxed{\hspace{2cm}}$

c  $163 - 149 = \boxed{\hspace{2cm}}$

$585 - 80 \text{ (+2)}$

$894 - 70 \text{ (-1)}$

$163 - 150 \text{ (+1)}$

$\underline{\hspace{2cm}} \text{ ( )} = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} \text{ ( )} = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} \text{ ( )} = \underline{\hspace{2cm}}$

**3** Solve these problems using compensation. Decide if you need to round up or down and compensate accordingly:

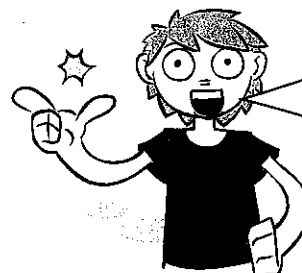
a  $555 - 63$

b  $775 - 98$

c  $644 - 139$

d  $594 - 329$

e  $432 - 204$



You can solve these in your head or make notes as you go. Do whatever works for you.

**REMEMBER**

# Subtraction mental strategies – compensation strategy

4 Wally the work experience boy has solved these. He is very chuffed because he solved them all correctly. Can you use his working out to establish what the original questions were?

a  $\boxed{454} - \boxed{\phantom{000}} = \boxed{427}$

$454 - 30 = 424 + 3 = 427$

b  $\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$

$568 - 310 = 258 + 2 = 260$

c  $\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$

$994 - 80 = 914 + 2 = 916$

d  $\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$

$678 - 450 = 228 - 2 = 226$

e  $\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$

$684 - 60 = 624 + 1 = 625$

f  $\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$

$348 - 130 = 218 + 2 = 220$

5 Use the compensation method to count backwards and complete these number patterns.



17 is close to 20 so I will subtract 20 and add 3.

THINK

- 17	- 21	- 98	- 33
600	124	395	800
583	103		
		199	
549			

6 These subtraction problems have been partially solved using compensation. Colour match the steps that were used and complete the missing parts. The first one has been done for you:

\$4.50 - \$2.75	\$5.70 - \$3.00 = \$2.70	\$2.45 + _____ =	
\$10.00 - \$6.25	\$4.50 - \$3.00 = \$1.50	\$4.25 + _____ =	
\$5.70 - \$3.05	\$17.25 - \$13.00 = \$4.25	\$1.50 + _____ =	
\$17.25 - \$12.90	\$9.45 - \$7.00 = \$2.45	\$4.00 - _____ =	
\$9.45 - \$6.85	\$10.00 - \$6.00 = \$4.00	\$2.70 - _____ =	\$1.75