

PG134

- 1 Use partitioning and the branching strategy to help you calculate these.
- (a) $64 + 34$ (b) $51 + 37$ (c) $426 + 240$ (d) $724 + 161$
 (e) $824 + 363$ (f) $1,400 + 2,500$ (g) $6,100 + 1,500$ (h) $6,300 + 4,600$
 (i) $24,200 + 10,600$ (j) $34,500 + 15,400$ (k) $2.3 + 4.2$ (l) $9.5 + 3.4$
 (m) $0.42 + 0.37$ (n) $0.521 + 0.146$ (o) $0.403 + 0.395$ (p) $0.764 + 0.035$
- 2 Use partitioning and the branching strategy to help you calculate these.
- (a) $98 - 63$ (b) $87 - 34$ (c) $586 - 230$ (d) $697 - 345$
 (e) $987 - 645$ (f) $3,867 - 643$ (g) $5,867 - 1,206$ (h) $9,867 - 3,024$
 (i) $54,791 - 23,300$ (j) $96,467 - 32,130$ (k) $8.9 - 4.5$ (l) $9.7 - 3.6$
 (m) $6.87 - 0.62$ (n) $0.498 - 0.157$ (o) $0.948 - 0.612$ (p) $0.874 - 0.561$

Q1.

a. 98	i. 34, 800	m. 0.79
b. 88	j. 49,900	n. 0.667
c. 666	k. 6.5	o. 0.798
d. 885	l. 12.9	p. 0.799

Q2.

a. 35	i. 31,491	m. 6.25
b. 53	j. 64,337	n. 0.341
c. 356	k. 4.4	o. 0.336
d. 352	l. 6.1	p. 0.313

PG135

3 Use empty number lines, and adding or subtracting in stages to show these.

- (a) $57 + 32 = \underline{\quad}$ (b) $736 + 263 = \underline{\quad}$
 (c) $1,496 + 302 = \underline{\quad}$ (d) $2,491 + 1,500 = \underline{\quad}$
 (e) $24,264 + 18,600 = \underline{\quad}$ (f) $34,532 + 25,460 = \underline{\quad}$
 (g) $21.3 + 6.2 = \underline{\quad}$ (h) $84.5 + 5.4 = \underline{\quad}$ (i) $1.41 + 0.37 = \underline{\quad}$
 (j) $0.563 + 0.325 = \underline{\quad}$ (k) $97 - 43 = \underline{\quad}$ (l) $686 - 420 = \underline{\quad}$
 (m) $897 - 346 = \underline{\quad}$ (n) $9,867 - 6,025 = \underline{\quad}$ (o) $67,731 - 23,300 = \underline{\quad}$
 (p) $96,487 - 32,130 = \underline{\quad}$ (q) $14.7 - 3.6 = \underline{\quad}$ (r) $5.84 - 0.62 = \underline{\quad}$

Always check that the answer is reasonable.

Work It Out!

- (a) Mark bought two pieces of meat weighing 0.642 kg and 0.317 kg. What was the total weight of the meat?
 (b) What is the value of a two-year-old car if it is now worth €6,900 less than when it was new? The value of the car when new was €24,990.
 (c) If 43,560 people attended a festival this year, an increase of 2,430 on last year, how many attended the festival last year?



Q 3.

i. 1.78	n. 3,842
j. 0.888	o. 44,431
k. 54	p. 64,357
l. 266	q. 11. 1
m. 551	r. 5.22

Work it out

- a. $0.642 \text{ kg} + 0.317 \text{ kg} = 0.959 \text{ kg}$
 b. $\text{€}24,990 - \text{€}6,900 = \text{€}18,090$
 c. $43,560 - 2,430 = 41,130 \text{ people}$
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PG137

1 Use different empty number lines to show and solve each of these.

Find the difference between:	Take away:
(a) 80 and 560	(g) 80 from 560
(b) 198 and 215	(h) 198 from 215
(c) 600 and 4,900	(i) 600 from 4,900
(d) 3,680 and 4,200	(j) 3,680 from 4,200
(e) 0.3 and 6.8	(k) 0.3 from 6.8
(f) 3.75 and 4.35	(l) 3.75 from 4.35

Q1.

a. 480	g. 480
b. 17	h. 17
c. 4,300	i. 4,300
d. 520	j. 520
e. 6.5	k. 6.5
f. 0.6	l. 0.6

Work It Out!



- (a) Out of a bag of flour weighing 0.75 kg, 0.59 kg was taken to make bread. What was the weight of the bag then?
- (b) Last year, 8,250 people attended the parade. This year, 850 fewer people attended. How many attended this year?
- (c) Douglas Hyde, the first President of Ireland, was born in 1860 and died in 1949. What age was he when he died?
- (d) From a length of ribbon 6.45 m long, a piece measuring 0.65 m was cut. How much ribbon was left?
- (e) Matt bought two pieces of meat weighing 0.697 kg and 0.588 kg. How much heavier was the first piece of meat?
- (f) The value of a car, bought originally for €29,000, has decreased by an estimated €4,500. What is the current estimated value?
- (g) Two containers can each hold 4.78 l and 3.55 l. What is the difference between their capacities?
- (h) A factory produced 45,650 tablets in January, 42,370 tablets in February and 51,240 tablets in March. How many more tablets did the factory produce:
- in January than in February?
 - In March than in February?
 - in March than in January?
- (i) Over to you: make up two similar word problems. Swap them with your partner and solve each other's problems.



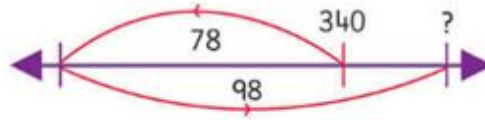
Work it out

a. $0.75\text{kg} - 0.59\text{kg} = 0.16\text{kg}$
b. $8,250 - 850 = 7,400$ people
c. $1949 - 1860 = 89$
d. $6.45\text{m} - 0.65\text{m} = 5.8\text{m}$
e. $0.697\text{kg} - 0.588\text{kg} = 0.109\text{kg}$
f. $\text{€}29,000 - \text{€}4,500 = \text{€}24,500$
g. $4.78\text{L} - 3.55\text{L} = 1.23\text{L}$
h. i $45,650 - 42,370 = 3,280$ ii $51,240 - 42,370 = 8,870$ lii $51,240 - 45,650 = 5,590$
i. Make up your own (check it with a calculator)

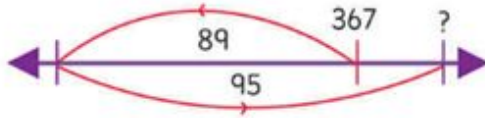
PG 139

1 Copy and complete the number line to solve each problem.

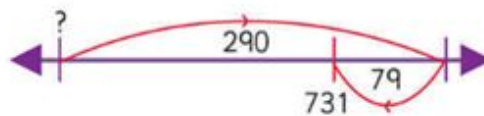
- (a) A train carrying 340 passengers pulled into a station where 78 of the passengers disembarked (got off). If 98 new passengers got on at the same station, how many passengers were then on the train as it left the station?



- (b) There were 367 people queuing for concert tickets. After an hour, 89 people left the queue and 95 new people joined the queue. How many people were in the queue then?



- (c) Mark thinks of a number. He adds 290 to it, then subtracts 79 and is left with 731. Of what number did Mark first think?



Q1.

a. $340 - 78 + 98 = 340 + 20 = 360$ passengers
b. $367 - 89 + 95 = 367 + 6 = 373$ people
c. $? + 290 - 79 = 731$ $? = 731 + 79 - 290$ $? = 520$

2 Show each of these problems using an empty number line.

- (a) During July, Anna withdrew €1,250 from her bank account to cover expenses. On the first day of August, wages of €1,690 were paid into her account. If her new balance was €2,918, how much money was in her bank account on the first day of July?
- (b) According to census figures, there were 45,867 people living in Oldtown in 2011. Records show that 6,799 people have moved out of the town since the census of 2011, and that by 2015 there were 46,942 people living in the town. How many people moved to the town during the same time period?
- (c) At the beginning of November, Sabine weighed 63.95 kg. By the beginning of January, she had gained 2.27 kg. By the beginning of March her weight was 64.86 kg. Overall, had Sabine lost or gained weight during the months of January and February? Express the loss or gain in kilograms.
- (d) A large company had 12,648 employees in January. During the year, it appointed 890 new employees, while other employees left the company. If the total number of employees at the end of December was 12,497, how many employees left the company during the year?

Q2.

$$\begin{aligned} \text{a. } ? - \text{€}1,250 + \text{€}1,690 &= \text{€}2,918 \\ ? (+\text{€}440) &= \text{€}2,918 \\ ? &= \text{€}2,918 - \text{€}440 = \text{€}2,478 \end{aligned}$$

$$\begin{aligned} \text{b. } 45,867 - 6,799 + ? &= 46,942 \\ 39,068 + ? &= 46,942 \\ ? &= 46,942 - 39,068 = 7,874 \text{ people} \end{aligned}$$

$$\begin{aligned} \text{c. } 63.95\text{kg} + 2.27\text{kg} + ? &= 64.86\text{kg} \\ 66.22 - ? &= 64.86\text{kg} \\ ? &= 64.86\text{kg} - 66.22\text{kg} = -1.36 \text{ kg} = 1.36 \text{ kg lost} \end{aligned}$$

$$\begin{aligned} \text{d. } 12,648 + 890 - ? &= 12,497 \\ 13,538 + ? &= 12,497 \\ ? &= 12,497 - 13,538 = -1,041 \text{ employees} = 1,041 \text{ employees left} \end{aligned}$$

Work It Out!



- 1 Try to solve these mentally. Use jottings to show your thinking.
- (a) A painting originally bought for €87,500 was later sold for €94,250. Was it sold for a profit or a loss? Of how much?
- (b) From a piece of meat weighing 15.26 kg, a piece weighing 2.06 kg was cut. How much meat was left then?
- (c) The distance from Ballybay to Kilmore is 56.3 km. The distance from Ballybay to Rivertown is 63.5 km.
- (i) Which place is furthest from Ballybay and by how much?
- (ii) If you drove from Kilmore to Ballybay and then to Rivertown, what distance would you have travelled?
- 2 (a) $84_ - 36_ = 475$ What possible digits could fill in the gaps? Find all the possibilities.
- (b) $_, _ - 3,781 = 2,4_6$ What is the (i) largest and the (ii) smallest possible minuend?



Q1 a. €94,250 - €87,500 = €6,750 profit

b. 15.26kg - 2.06kg = 13.2 kg

c. Ballybay to Kilmore= 56.3km Ballybay to Rivertown= 63.5km

i. Assuming it goes

Ballybay.....Kilmore.....Rivertown,
 56.3km (63.5-56.3=) 7.2km

Rivertown is the furthest. It is 7.2km further than Kilmore.

ii. $56.3 + 63.5 = 119.8\text{km}$

Q2 a. $84_ - 36_ = 475$

Note: I started with 849 and said $840 - 475 = ?$

$$840 - 365 = 475$$

$$841 - 366 = 475$$

$$842 - 367 = 475$$

$$843 - 368 = 475$$

$$844 - 369 = 475$$

B. $_, _ - 3,781 = 2,4_6$

Minuend is the number being subtracted from (pg192)

Note: I started with $? = 2,416 + 3,781$. Then continued to change 1.

$$6,197 - 3,781 = 2416$$

$$6,207 - 3,781 = 2426$$

$$6,217 - 3,781 = 2436$$

$$6,227 - 3,781 = 2446$$

$$6,237 - 3,781 = 2456$$

$$6,247 - 3,781 = 24\bar{6}6$$

$$6,257 - 3,781 = 24\bar{7}6$$

$$6,267 - 3,781 = 24\bar{8}6$$

$$6,277 - 3,781 = 24\bar{9}6 \text{ largest}$$

$$6,187 - 3,781 = 24\bar{0}6 \text{ smallest}$$