Year 3 maths: Missing digits in sums (Hard)

Maths · Number
Level: Hard

Student: _____ Date: _____

Instructions
- There are 9 questions. Read each one carefully.
- Write your answers on this paper. Use the space under a question to work it out.
- A grown-up can read a question aloud — that's fine.
- The answers are at the end. Check them together when you have finished.

Questions

1. 9□2 − 365 = 577. What digit goes in the box?

Answer: ☐

	H	T	O
	9	□	2
−	3	6	5
	5	7	7

Working:

2. 5□□ − 247 = 318. What is the top number?

Answer: ☐

	H	T	O
	5	□	□
−	2	4	7
	3	1	8

Working:

3. 2□4 + 3□8 = 632. Both boxes hold the SAME digit. What is it?

Circle one answer.

	H	T	O
	2	□	4
+	3	□	8
	6	3	2

○ **A** 1 ○ **B** 2 ○ **C** 6 ○ **D** 7 ○ **E** 3

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4. 7□5 − □38 = 297. What is the bottom number?

Answer: ____

	H	T	O
	7	□	5
−	□	3	8
	2	9	7

Working:

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5. 274 + □6 + 58 = 418. What digit goes in the box?

Answer: ____

H	T	O	
	2	7	4
		?	6
+		5	8
=	4	1	8

Working:

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6. 125 + 1□7 + 68 = 340. What digit goes in the box?

Answer: ____

H	T	O	
	1	2	5
	1	?	7
+		6	8
=	3	4	0

Working:

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7. Ella adds three numbers: 96, 87 and a two-digit number ending in 9. The total is 252. What is the tens digit of the third number?

Circle one answer.

H	T	O	
		9	6
		8	7
+		?	9
=	2	5	2

○ **A** 7 ○ **B** 8 ○ **C** 9 ○ **D** 5 ○ **E** 6

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8. P, Q and R stand for digits in this sum: 2P6 + 14Q + R53 = 681. What is P × Q × R?

Circle one answer.

H	T	O	
	2	P	6
	1	4	Q
+	R	5	3
=	6	8	1

○ **A** 32 ○ **B** 48 ○ **C** 12 ○ **D** 54 ○ **E** 96

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9. A, B and C stand for digits in this sum: A74 + 38B + 1C9 = 812. What is A × B × C?

Circle one answer.

H	T	O	
	A	7	4
	3	8	B
+	1	C	9
=	8	1	2

○ **A** 135 ○ **B** 72 ○ **C** 108 ○ **D** 15 ○ **E** 216

Answer key

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1. 4

Add back: 577 + 365 = 942, so □ = 4. Check: 942 − 365 = 577.

2. 565

Add back: 318 + 247 = 565. So the top number is 565. Check: 565 − 247 = 318.

3. C — 6

Ones: 4 + 8 = 12, carry 1. Hundreds: 2 + 3 = 5 but the answer has 6, so the tens carried 1 too. Tens: □ + □ + 1 = 13, so □ + □ = 12 and □ = 6. Check: 264 + 368 = 632.

4. 438

Use the opposite: the top is 297 + □38. Ones: 7 + 8 = 15, write 5, carry 1. Tens: 9 + 3 + 1 = 13, so the top's tens digit is 3, carry 1. Hundreds: 2 + □ + 1 = 7, so □ = 4. The bottom number is 438. Check: 735 − 438 = 297.

5. 8

Add the two numbers you know: 274 + 58 = 332. 418 − 332 = 86, so the box is 8. Check: 274 + 86 + 58 = 418.

6. 4

Add the two numbers you know: 125 + 68 = 193. 340 − 193 = 147, so the box is 4. Check: 125 + 147 + 68 = 340.

7. E — 6

96 + 87 = 183. 252 − 183 = 69, so the tens digit is 6. Check: 96 + 87 + 69 = 252.

8. A — 32

Ones: 6 + Q + 3 must end in 1, so Q = 2 (6 + 2 + 3 = 11, carry 1). Tens: P + 4 + 5 + 1 must end in 8, so P = 8 (18, carry 1). Hundreds: 2 + 1 + R + 1 = 6, so R = 2. Check: 286 + 142 + 253 = 681. P × Q × R = 8 × 2 × 2 = 32.

9. B — 72

Ones: 4 + B + 9 must end in 2, so B = 9 (22, carry 2). Tens: 7 + 8 + C + 2 must end in 1, so C = 4 (21, carry 2). Hundreds: A + 3 + 1 + 2 = 8, so A = 2. Check: 274 + 389 + 149 = 812. A × B × C = 2 × 9 × 4 = 72.