

EXAMPLE Evaluate $123 - 7 + 75 - 13 + 25$.

Subtracting 7 then subtracting 13 is the same as subtracting 20. Adding 75 then adding 25 is the same as adding 100.

So, $123 - 7 + 75 - 13 + 25$ is equal to $123 - 20 + 100$.

$$\begin{array}{r}
 123 \quad (-7) \quad (+75) \quad (-13) \quad (+25) \\
 \quad \quad \quad \diagdown \quad \diagup \quad \diagdown \quad \diagup \\
 = 123 \quad (-20) \quad (+100) \\
 = 103 + 100 \\
 = 203.
 \end{array}$$

Sometimes it's easier to do the addition all at once and the subtraction all at once.



PRACTICE Fill in the blanks to solve each problem below.

87. $65 - 8 + 35 - 2$

$$\begin{array}{l}
 = 65 + 35 - \boxed{} \\
 = \boxed{}
 \end{array}$$

88. $53 - 24 - 26 + 38$

$$\begin{array}{l}
 = 53 - \boxed{} + 38 \\
 = \boxed{}
 \end{array}$$

89. $125 + 47 - 123 + 53$

$$\begin{array}{l}
 = 125 - 123 + \boxed{} \\
 = \boxed{}
 \end{array}$$

90. $50 - 12 + 20 - 18$

$$\begin{array}{l}
 = 50 + 20 - \boxed{} \\
 = \boxed{}
 \end{array}$$

91. $200 - 38 + 700 - 122$

$$\begin{array}{l}
 = 200 + 700 - \boxed{} \\
 = \boxed{}
 \end{array}$$

92. $19 + 15 + 15 - 6 - 6$

$$\begin{array}{l}
 = 19 + \boxed{} - \boxed{} \\
 = \boxed{}
 \end{array}$$

93. $134 - 19 + 33 - 21 + 17$

$$\begin{array}{l}
 = 134 - \boxed{} + \boxed{} \\
 = \boxed{}
 \end{array}$$

94. $7 + 81 - 11 - 33 + 9$

$$\begin{array}{l}
 = 7 + \boxed{} - \boxed{} \\
 = \boxed{}
 \end{array}$$

95. $80 - 19 - 11 + 22 + 23$

$$\begin{array}{l}
 = 80 - \boxed{} + \boxed{} \\
 = \boxed{}
 \end{array}$$

PRACTICE

Fill the boxes below to make each equation true.

96. $28 + 19 - \boxed{} = 28$

97. $789 + \boxed{} - 789 = 987$

98. $64 - 27 + \boxed{} = 65$

99. $113 - \boxed{} + 113 = 200$

100. $226 - 77 + \boxed{} = 224$

101. $75 - 28 + 75 - \boxed{} = 100$
★

102. $77 + 144 - 12 + \boxed{} - 145 = 77$
★

103. $200 - 26 - \boxed{} + 27 + 84 = 203$
★

Find the missing numbers!



In an **Equation Path** puzzle, the goal is to trace a path through the grid to create a true equation. Start in the top-left corner and end with the bottom-right number outside the grid.

- The path can only go up, down, left, or right. (No diagonals.)
- The path may not cross the same square twice.

EXAMPLE | Solve the Equation Path puzzle on the right.

10	+3	-3	
+3	+2	+20	
-2	+30	-2	= 60

To get from 10 to 60, we need to add a total of $60 - 10 = 50$. To add 50, our path must cross +20 and +30. The other squares in our path must cancel.

The only way to do this is shown below.

10	+3	-3	
+3	+2	+20	
-2	+30	-2	= 60

We check our work:

$$10 + \cancel{+3} - \cancel{-3} + 20 + \cancel{+2} + 30 - \cancel{-2} = 60. \checkmark$$

PRACTICE | Solve each Equation Path puzzle below.

104.

15	+1	+1	
+1	+10	+1	
+10	+1	+10	= 28

105.

14	-1	-2	
+10	-2	-3	
+20	+30	-4	= 70

PRACTICE | Solve each Equation Path puzzle below.

106.

100	+17	-31
+3	-5	+3
+31	-17	-5

= 90

107.

26	+13	-25
-13	+25	+3
+3	+3	+3

= 32

108.

40	+2	-8
-40	+8	+10
+10	-2	+40

= 90

109.

6	+2	-1
+8	-8	+4
-2	+16	-4

= 0

110.

49	-10	+22
-10	-1	-1
+22	-10	-10

= 50

111.

19	+2	+2
+2	+4	-6
-6	-6	-6

= 17