

EXAMPLE

Use the given numbers to fill the blanks to make two ***different*** true statements.

Use: 4, 6, 10

$$\square - \square + \square = 12$$

In the first two boxes, we look to subtract a smaller number from a larger one. This leaves three choices.

$$6 - 4 + 10 = 12 \quad \checkmark$$

$$10 - 6 + 4 = 8 \quad \times$$

$$10 - 4 + 6 = 12 \quad \checkmark$$

So, $\boxed{6} - \boxed{4} + \boxed{10} = 12$

and $\boxed{10} - \boxed{4} + \boxed{6} = 12$

PRACTICE

Use the given numbers to fill the blanks to make two ***different*** true statements.

44. Use: 17, 18, 19

$$\square - \square + \square = 20$$

and

$$\square - \square + \square = 20$$

45. Use: 9, 19, 29

$$\square - \square - \square = 1$$

and

$$\square - \square - \square = 1$$

46. Use: 11, 22, 44

$$\square - \square = \square + 11$$

and

$$\square - \square = \square + 11$$

47. Use: 14, 16, 17

$$\square + 15 - \square = \square$$

and

$$\square + 15 - \square = \square$$

EXAMPLE | Evaluate $10 - (6 - 4)$.

We first evaluate the part inside the parentheses, $6 - 4$. Then, we subtract the result from 10.

$$\begin{array}{r} 10 - (6 - 4) \\ \quad \quad \quad \swarrow \quad \searrow \\ 10 - 2 \\ \quad \quad \quad \swarrow \quad \searrow \\ \quad \quad \quad 8 \end{array}$$

So, $10 - (6 - 4) = 8$.

In an expression, anything inside parentheses gets evaluated first.

Within the parentheses, we add and subtract from left to right.

**PRACTICE** | Evaluate each expression below.

48. $(8 - 2) + 6 =$ _____ 49. $8 - (2 + 6) =$ _____ 50. $8 - 2 + 6 =$ _____

51. $9 - (5 - 3) =$ _____ 52. $(9 - 5) - 3 =$ _____ 53. $9 - 5 - 3 =$ _____

54. $(7 + 4) - 1 =$ _____ 55. $7 + (4 - 1) =$ _____ 56. $7 + 4 - 1 =$ _____

57. $13 - 12 + (7 - 6) =$ _____ 58. $13 - (12 + 7 - 6) =$ _____

59. $28 - (11 - 5) - 2 =$ _____ 60. $28 - (11 - 5 - 2) =$ _____

EXAMPLE

Place one pair of parentheses in the statement below to make it true.

$$12 - 6 - 3 + 2 = 11$$

Grouping the first two, three, or four numbers gives the same value as $12 - 6 - 3 + 2$:

$$(12 - 6) - 3 + 2 = 6 - 3 + 2 = 5$$

$$(12 - 6 - 3) + 2 = 3 + 2 = 5$$

$$(12 - 6 - 3 + 2) = 5$$

There are two other ways to use parentheses to group two numbers, and one other way to group three numbers:

$$12 - (6 - 3) + 2 = 12 - 3 + 2 = 11$$

$$12 - 6 - (3 + 2) = 12 - 6 - 5 = 1$$

$$12 - (6 - 3 + 2) = 12 - 5 = 7$$

From our choices, only $12 - (6 - 3) + 2$ equals 11.

PRACTICE

Place one pair of parentheses in each statement below to make it true.

61. $15 - 6 + 4 = 5$

62. $20 - 4 - 3 = 19$

63. $25 - 3 + 2 + 5 = 25$

64. $70 - 50 - 30 - 10 = 0$

65. $45 - 18 - 17 + 9 = 35$

66. $10 - 2 + 3 - 1 = 4$

67. $100 - 45 + 25 + 15 = 45$

68. $17 + 6 - 5 + 4 = 14$

69. $7 + 6 - 5 + 4 - 3 = 1$

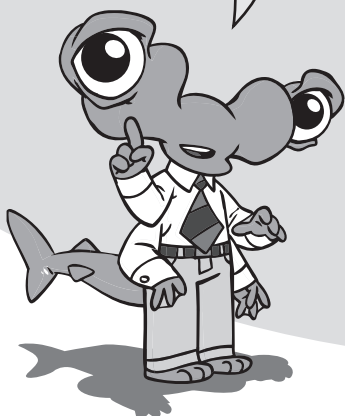
70. $15 - 4 + 6 - 3 + 2 = 10$

EXPRESSIONS

Parentheses

Expressions can have more than one pair of parentheses.

When there are parentheses inside parentheses, we evaluate the expression in the inner parentheses first.



EXAMPLE Evaluate $20 - (2 + 5) - (3 + 4)$.

$$\begin{aligned}
 & 20 - (2 + 5) - (3 + 4) \\
 = & \quad \quad \quad \downarrow \\
 & 20 - 7 - (3 + 4) \\
 = & \quad \quad \quad \downarrow \\
 & 20 - 7 - 7 \\
 = & \quad \quad \quad \downarrow \\
 & 13 - 7 \\
 = & \quad \quad \quad \downarrow \\
 & \quad \quad \quad \mathbf{6.}
 \end{aligned}$$

EXAMPLE Evaluate $100 - (50 - (5 + 5))$.

$$\begin{aligned}
 & 100 - (50 - (5 + 5)) \\
 = & \quad \quad \quad \downarrow \\
 & 100 - (50 - 10) \\
 = & \quad \quad \quad \downarrow \\
 & 100 - 40 \\
 = & \quad \quad \quad \downarrow \\
 & \quad \quad \quad \mathbf{60.}
 \end{aligned}$$

PRACTICE Evaluate each expression below.

71. $10 - (5 - 4) - (3 + 2) =$ _____

72. $1 - (1 - (1 - 1)) =$ _____

73. $30 - 3 - (30 - (10 + 3)) =$ _____

74. $24 - (12 - (3 + 3) - 3) =$ _____

75. $39 - (26 - (7 + 9 - 5)) =$ _____

76. $4 - (6 - (8 - (12 - 10))) =$ _____