1-2 Puzzle: Calc-Words
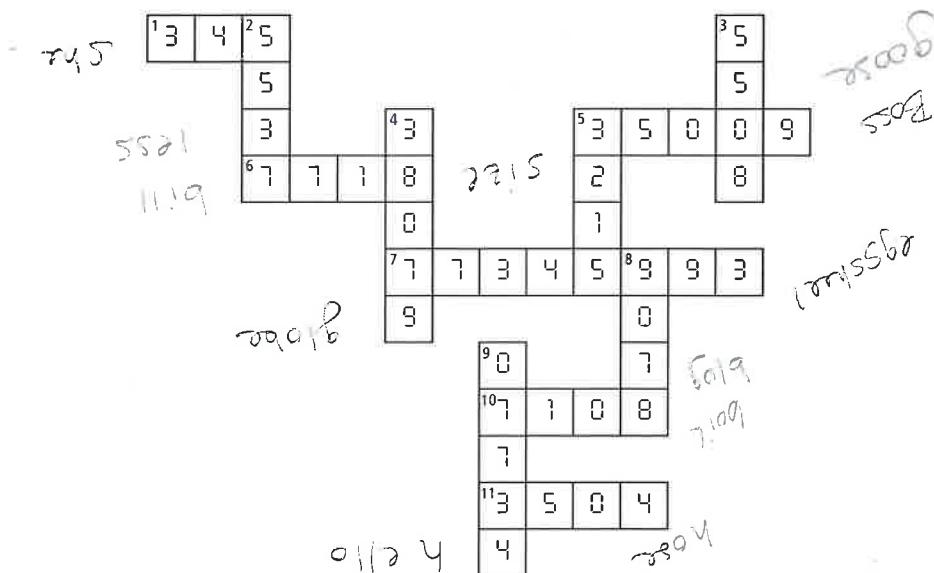
Order of Operations and Evaluating Expressions

Instead of entering a letter in each box of this crossword puzzle, write a digit! Draw the digit in each box so it looks like you typed it using your calculator.

0 1 2 3 4 5 6 7 8 9

To check your answers, turn this page upside down. If each horizontal or vertical group of numbers forms a word, then your answers are correct!

ACROSS

Simplifying

1. Find the value of $x^3 + 2y^3$ for $x = 7$ and $y = 1$. **345**

5. Simplify $524 + 55 \cdot 627$. **35009**

6. What is the value of $2x^3 + 4x^2 + 4x + 8$ when $x = 15$? **7718**

Evaluating

7. Simplify $1583 + 7986 \cdot 9685$. **77345993**

10. Find the value of $12 \div 2 + 4 + 78 \cdot 91$. **7108**

11. What is the simplified form of $2^4 \cdot 3(9 \cdot 8 + 1)$? **3504**

DOWN

2. Evaluate $2x^4 + 2x^3 + x^2$ when $x = 7$. **5537**

3. Find the value of $x^2 + 2xy + 3y^2$ for $x = 70$ and $y = 4$. **5508**

4. What is the simplified form of $351 + 524 \cdot 72$? **38079**

5. Evaluate $5(x^5 + y^2)$ when $x = 3$ and $y = 20$. **3215**

8. What is the value of $11x^2 - 6x + 1$ when $x = 29$? **9078**

9. Find the value of $x^2 + 3x + 0.2345$ when $x = 0.17$. (Include the leading zero and ignore the decimal point.) **0.7734**

WORK

Work Mat (30 Boxes): Show your work for EVERY problem in the appropriate space below. Circle your final answer. If you need more work space, complete it on loose leaf paper and staple it to this work mat.

(A) 1)
$x^3 + 2y^3$
$7^3 + 2(1)^3$
$343 + 2$ （345）

$49 \times 7 = 343$
$343 \times 7 = 2401$

(D) 2)
$2x^4 + 2x^3 + x^2$
$2(7)^4 + 2(7)^3 + 7^2$
$2(2401) + 2(343) + 49$
$4802 + 686 + 49$

4802
686
$+ 49$
（5537）

(AS)
$524 + 55 \cdot 627$

（35,009）

627×55
3135
$3135 \times$
34485
$+ 524$
35009

(D) 4)
524×72
1048
3568
37728

$37,728$
$+ 351$
（38,079）

(D3)
$x^2 + 2xy + 3y^2$
$70^2 + 2(70)4 + 3(4)^2$
$4900 + 2(280) + 3(16)$
$4900 + 560 + 48$

4900
$+ 560$
48
（5508）

(A) 6)
$2x^3 + 4x^2 + 4x + 8$
$2(15)^3 + 4(15)^2 + 4(15) + 8$
$2(3375) + 4(225) + 60 + 8$
$6750 + 900 + 68$
（7,718）

$15 \times 15 = 75$
150
225
225×15
1125
225
3375

$225 \times 4 = 900$

(A) 7)
7986×9685
39930
638880
479160
71874000
77344410
$+ 1583$
（77,345,993）

(D5)
20
$\times 20$
400

$27 \times 3 = 81$
$81 \times 3 = 243$

$5(243 + 400)$
$5(643)$
（3215）

$643 \times 5 = 3215$

(D) 9)
$.0289 + .51 + 0.2345$

0.17
0.17
119
17
$.0289$

$0.17 \times 3 = .51$

0.2345
$.0289$
$.51$
（0.7734）

(A) 10)
78×91
78
7020
7098

$6 + 4 + 7098$
7098
$+ 10$
（7108）

(A) 11)
$2^4 \cdot 3(9 \cdot 8 + 1)$
$16 \cdot 3(73)$ or multiplication in any order
$48(73)$

73×3
219
$\times 16$
（3504）

(D8) 12)
$11(29)^2 - 6(29) + 1$
$11(841) - 6(29) + 1$
$9251 - 174 + 1$
$9077 + 1$
（9078）

---

13)

14)

38) $3[(4-2)^5 - 20]$

$3[(2)^5 - 20]$

$3[32 - 20]$

$3(12)$

$\boxed{36}$

42) $\dfrac{2[8 + (67 - 2^5)^3]}{9}$

$\dfrac{2[8 + (67 - 64)^3]}{9}$

$\dfrac{2[8 + 3^3]}{9}$

$\dfrac{2[8 + 27]}{9}$

$\dfrac{2(35)}{9}$

$\boxed{\dfrac{70}{9} = 7\dfrac{7}{9}}$

40) $\dfrac{22 + 1^3 + (3^4 - 7^2)}{2^3}$

$\dfrac{22 + 1^3 + (81 - 49)}{2^3}$

$\dfrac{22 + 1^3 + 32}{2^3}$

$\dfrac{22 + 1 + 32}{8}$

$\boxed{\dfrac{55}{8} = 6\dfrac{7}{8}}$

44) The expression is $\boxed{10h}$

10h | $100
20h | $200
30h | $300
40h | $400

54) (a)

$(x+y)^2$ $\qquad$ x^2+y^2

$(1+0)^2$ $\qquad$ $(1)^2+(0)^2$

$(1)^2$ $\qquad$ $1+0$

$\{1\}$ $\qquad$ $\{1\}$

(b)

$(x+y)^2$ $\qquad$ x^2+y^2

$(1+2)^2$ $\qquad$ $(1)^2+(2)^2$

3^2 $\qquad$ $1+4$

$\{9\}$ $\qquad$ $\{5\}$

(c) We will discuss as a class

(d) No, they are only equal for some values.

56) $9+3-(2+4)=6$

58) $4^2-5(2+1)=1$