Order of Operations

(Answer ID # 0588953)

Simplify.

1. $(512 \div 8) \times 360 \div 6 - (55 - 2) + 5 \times 43$
2. $(791 + 3) + (192 - 2 \times 26) - 25 + 17 \times 20$
3. $69 \times 50 + 124 \times 920 \div 8 - 4 - 482$
4. $(708 \div 3 \times 425 + 5) \div (60 \div 4)$
5. $48 \div 4 - 45 \div 9 + 30 \times (50 \times 984 \div 3)$
6. $(9 - 4) + 265 \times (768 \div 6) \times 13 - 507$
7. $558 + 25 - 159 + 72 \div 6 + 4 \times 720 \div 6$
8. $65 \times 3 - 4 \times 51 + 392 + (696 \div 6) - 185$
9. $(645 \times 276 \times 83 + 16{,}438) \div (574 + 95 \times 317)$
10. $(89 + 4) \times 483 \div 3 + 240 \times 3 \times (52 \div 4)$
11. $290 \div 5 + 1 \times 521 + 66 \div 6 - 391$
12. $126 \div 6 + 536 \div 4 + 32 \times 1 \times 136 - 287$
13. $(64 \div 8) \times 49 + 1 - 5 + 3 - (790 \div 5)$

Answer Key 0588953

1 4002
2 1249
3 17224
4 6687
5 492007
6 440458
7 916
8 314
9 482
10 24333
11 199
12 4220
13 233

SELF-TEST

Multiple Choice:

1. Which of the following computations can be simplified using distributivity?

   a. $34(17 + 83)$ b. $20(5 \times 163)$ c. $17 + (13 + 42)$ d. $27 \times 7 + 27 \times 3$

2. Which of the following illustrates the left-to-right addition method for finding 35 + 41?

   a. 30 + 40 + 5 + 1
   b. 30 + 5 + 40 + 1
   c. 5 + 1 + 30 + 40
   d. None of a, b, or c.

3. Which of the following are equal?

   (i) $37_{\text{eight}} + 124_{\text{eight}}$ (ii) $354_{\text{eight}} - 152_{\text{eight}}$ (iii) $32_{\text{eight}} \times 5_{\text{eight}}$

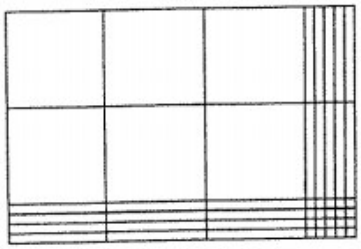
   a. i and ii b. i and iii c. ii and iii d. None of a, b, or c.

Short Answer:

4. Show how to estimate the following sum in two different ways.

   $$640 + 673 + 713 + 702 + 645$$

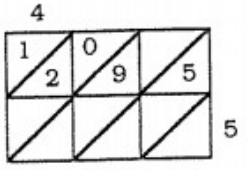
5. What multiplication problem is represented by the given arrangement of pieces and the rectangular array approach? Explain how the arrangement of these pieces relates to the partial products in the intermediate algorithm for multiplication.



6. You are sent to the donut shop with $5.00 to buy 5 dozen donuts for the office staff. You notice that the price is listed as $1.20 per dozen, but that a special is advertised for $.25 off each dozen when you buy 5 dozen or more. Will you be able to buy 5 dozen of the donuts? How much will you pay the salesclerk? Discuss when an estimate would be appropriate in this scenario and when an exact calculation is necessary.

7. Find the indicated product by completing the lattice to the right.

   What factors were multiplied?



8. Explain how you would find the remainder for 6,289,214 divided by 92,365 on a calculator.

Application/Problem Solving:

9. a. Given below is a sample of a student's paper. Find the error pattern the student is using and complete the last two items using the same error pattern.

$\overset{6}{1}\overset{1}{\cancel{8}}9$	$2\overset{3}{\cancel{4}}\overset{1}{7}$	$2\overset{4}{5}\overset{1}{\cancel{6}}$	372	486
$-\ 26$	$-\ 25$	$-\ 39$	$-\ 48$	$-\ 72$
1413	2112	217		

b. What instructional procedures might you use to help the student with this problem?

10. Instead of dividing by 24 in the problem shown below, a sixth grader decides it would be easier to divide by 4 and then divide that result by 6.

$24\overline{)1579}$

$$\begin{array}{r} 394\ r3 \\ 4\overline{)1579} \\ \underline{12} \\ 37 \\ \underline{36} \\ 19 \\ \underline{16} \\ 3 \end{array}$$

$$\begin{array}{r} 65\ r4 \\ 6\overline{)394} \\ \underline{36} \\ 34 \\ \underline{30} \\ 4 \end{array}$$

a. Does this process give you the correct quotient? the correct remainder?

b. The divisor 24 can also be written as 3×8. What results do you get using these numbers?

c. Explain what is happening in this process. How can you obtain the correct results?

11. 16. Compute the following without using your abacus:

a. $1221_{three} + 2122_{three}$

b. $2211_{three} - 1212_{three}$

a. $12_{three} \times 111_{three} =$ _____

b. $21_{three} \times 21_{three} =$ _____

c. $21_{three} \times 201_{three} =$ _____

d. $12_{three} \times 120_{three} =$ _____