Fifth Grade Cluster 6 Assessment – Whole Numbers

This assessment assesses students' ability to:

- Fluently multiply up to 3-digit by 2-digit numbers using a variety of strategies to work towards more efficient strategies including the standard algorithm.
- Use multiple strategies to divide numbers up to 4-digit dividends by two-digit divisors.
- Write expressions that represent mathematical situations.

NCSCOS 2017 Standards:

Standard	Questions
NC.5.OA.2	3, 5
NC.5.NBT.5	1, 4, 8, 9
NC.5.NBT.6	2, 6, 7, 10

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Question	Standard	Answer	Question	Standard	Answer
1	NC.5.NBT.5	D	6	NC.5.NBT.6	A
2	NC.5.NBT.6	B	7	NC.5.NBT.6	17
3	NC.5.OA.2	C	8	NC.5.NBT.5	2,392
4	NC.5.NBT.5	A	9	NC.5.NBT.5	Rubric
5	NC.5.OA.2	B	10	NC.5.NBT.6	Rubric

Rubric Scoring Guide:

Question 9 (3 points)

Students receives 1 point for each bullet:

- Student uses the standard algorithm to solve 198 x 34.
- Student uses another strategy to find the product of 198 x 34.
- Student states that there were 6,732 books.

Question 10 (3 points)

Students receives 1 point for each bullet:

- Student shows one strategy to solve 192 ÷ 16.
- Student uses a second strategy to solve 192 ÷ 16.
- Student states that there were 12 seats in each row.

Student Name: _____   Date: _____

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1. A babysitter earns $165 each day for keeping several children. If she babysat the
   children for 23 days in October, how much money did she earn?

   A $188   B $825
   C $2,695   D $3,795

2. A fifth grade class received a large donation of pencils at the beginning of the school
   year.

   - The school received 63 packs of 15 pencils.
   - There are 27 students in the class.

   If each student uses the same number of the donated pencils during the school year,
   how many pencils will each student use?

   A 14   B 35
   C 945   D 25,515

3. Lola sells jewelry. She sold 6 necklaces.

   - She sells each necklace for $9.
   - She spent $14 on supplies to make the necklaces.

   Which expression shows the amount of money Lola earned after paying for the
   supplies?

   A   6 x 9 x 14   B   6 x (9 + 14)

   C   6 x 9 – 14   D   14 + 6 x 9

4. An amusement park developed a program for local fifth grade students to study the
   relationship between angles and forces and motion of roller coasters.
   - The park created the program to serve up to 4,050 students.
   - The park has confirmed 185 students from 14 schools will attend the program.

   How many more students can be invited to participate in the program?

   A 1,460   B 1,560
   C 2,460   D 2,590

5. Josiah has 274 cards in his collection book.

   - The last page in his collection book has 4 cards.
   - The other pages in Josiah's book are full.
   - Each full page has 6 cards.

   If P is the number of full pages in Josiah's book, which expression could be used to find the number of full pages?
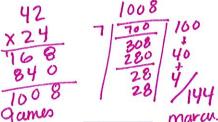
   A $274 \div 6 + 4$

   C $274 \div (6 + 4)$

   B $(274 - 4) \div 6$

   D $274 - (4 \times 6)$

6. Marcus and James both have a collection of sports cards with famous athletes from around the world.
   - James has 42 pages with 24 sports cards on each page.
   - James has 7 times as many cards as Marcus.

   James has more than Marcus!

   How many cards does Marcus have?

   A 144

   B 462

   C 1,008

   D 7,056

   42
   ×24
   168
   840
   1008
   James

   1008
   7 | 700 | 100
   *   308 | ↓*
   *   280 | 40*
   *   28 | +*
   *   28 | 4*
   * | /144*
   *   marcus*

Gridded Response Questions:

7. The teachers arranged the chairs for the fall festival. There were 402 chairs. The first row had 18 chairs. All of the other rows had 24 chairs in each row. How many rows were set up?

   Answer:

   | 17 |

   402
   −18
   384

   *   384*
   24 240   10
   *   144   +*
   *   120   5*
   *   24   +*
   *   24   1*
   *   /16*
   *   + 1 (chairs)*
   *   17*

8. A palace ballroom has an area of 10,000 square feet.

   - The floor will be covered with decorative 1-foot square tiles.
   - 6 crates with 1,268 tiles each have been ordered.

   How many more tiles need to be ordered to cover the entire floor?
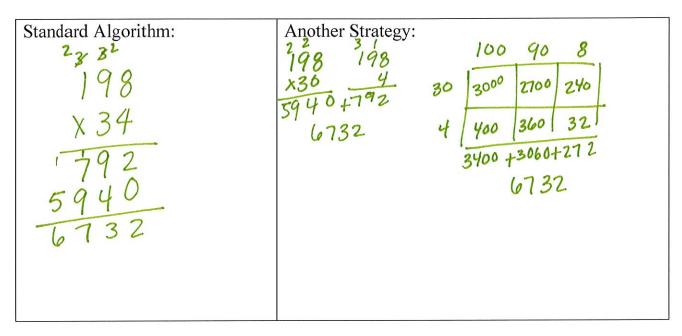
   Answer:

   | 2392 tiles |

   1268
   × 6
   7608
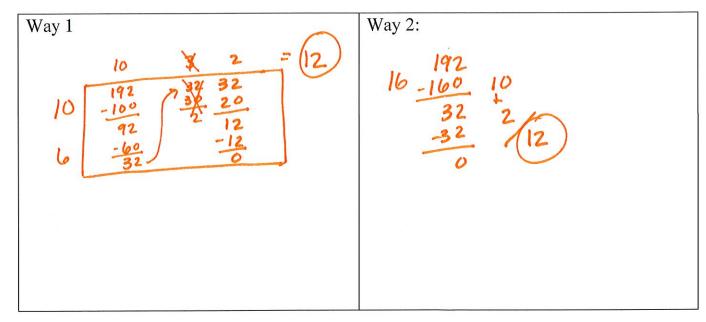
   10000
   −7608
   2392

Open Response Questions:

9. A new school received a shipment of library books. The shipment included 198 boxes with 34 books in each box. How many books were received for the new library? Show two ways to solve this problem including the standard algorithm as one way.

Standard Algorithm:	Another Strategy:
$^2\cancel{8}\ ^2\cancel{3}^2$ 198 $\times\ 34$ $\overline{792}$ 5940 $\overline{6732}$	$^2_{}1\overset{2}{9}8 \quad ^3\overset{1}{1}98$ $\times 36 \qquad \ \ 4$ $\overline{5940} + \overline{792}$ $\qquad 6732$ <table><tr><td></td><td>100</td><td>90</td><td>8</td></tr><tr><td>30</td><td>3000</td><td>2700</td><td>240</td></tr><tr><td>4</td><td>400</td><td>360</td><td>32</td></tr></table> $3400 + 3060 + 272$ 6732

How many books were received? __6732__

10. A movie theater has 192 seats. There are 16 rows of seats. If each row has the same number of seats, how many seats are in each row? Show two ways to solve this problem.

Way 1	Way 2:

How many seats were in each row? _____12_____