1. Explain how to find $40 \times 50$ using mental math.

2. Mrs. Traynor’s class is taking a field trip to the zoo. The trip will cost $26 for each student. There are 22 students in her class.

   **Part A**
   Round each factor to estimate the total cost of the students’ field trip.

   **Part B**
   Use compatible numbers to estimate the total cost of the field trip.

   **Part C**
   Which do you think is the better estimate? Explain.
3. For numbers 3a–3e, select Yes or No to show if the answer is correct.

3a.  \(35 \times 10 = 350\)  ○ Yes  ○ No
3b.  \(19 \times 20 = 380\)  ○ Yes  ○ No
3c.  \(12 \times 100 = 120\)  ○ Yes  ○ No
3d.  \(70 \times 100 = 7,000\)  ○ Yes  ○ No
3e.  \(28 \times 30 = 2,100\)  ○ Yes  ○ No

4. There are 23 boxes of pencils in Mr. Shaw’s supply cabinet. Each box contains 100 pencils. How many pencils are in the supply cabinet?

_____________ pencils

5. Which would provide a reasonable estimate for each product? Write the estimate beside the product. An estimate may be used more than once.

\[
\begin{array}{ccc}
50 \times 20 & 25 \times 40 & 30 \times 30 \\
23 \times 38 & 46 \times 18 & 31 \times 32 \\
39 \times 21 & & \\
\end{array}
\]

6. There are 26 baseball teams in the league. Each team has 18 players. Write a number sentence that will provide a reasonable estimate for the number of players in the league. Explain how you found your estimate.


7. The model shows \(48 \times 37\). Write the partial products.
8. Jess made this model to find the product $32 \times 17$. Her model is incorrect.

![Model](image)

**Part A**

What did Jess do wrong?

**Part B**

Redraw the model so that it is correct.

**Part C**

What is the actual product $32 \times 17$?

9. Tatum wants to use partial products to find $15 \times 32$. Write the numbers in the boxes to show $15 \times 32$.

\[
\begin{align*}
(\square \times \square) + (\square \times \square) + (\square \times \square) + (\square \times \square)
\end{align*}
\]
10. Which product is shown by the model? Write the letter of the product on the line below the model.

A 17 × 36  B 24 × 14  C 13 × 13


12. Write the unknown digits. Use each digit exactly once.

\[ \begin{array}{c}
46 \\
\times 93 \\
\hline
3, \underline{00} \\
5 \underline{0} \\
20 \\
\underline{1} \\
4, \underline{78}
\end{array} \]

13. Mike has 16 baseball cards. Niko has 17 times as many baseball cards as Mike does. How many baseball cards does Niko have?


\[ 36 \times 28 = \underline{\phantom{0000}} \]
15. A farmer planted 42 rows of tomatoes with 13 plants in each row. How many tomato plants did the farmer grow?

\[ 42 \times 13 = \text{tomato plants} \]

16. Select another way to show \(25 \times 18\). Mark all that apply.

- \((20 \times 10) + (20 \times 8) + (5 \times 10) + (5 \times 8)\)
- \((25 \times 20) + (25 \times 5) + (25 \times 10) + (25 \times 8)\)
- \((20 \times 18) + (5 \times 10) + (5 \times 8)\)
- \((25 \times 10) + (25 \times 8)\)
- \((25 \times 20) + (25 \times 5)\)

17. Terrell runs 15 sprints. Each sprint is 65 meters. How many meters does Terrell run? Show your work.

18. There are 3 new seats in each row in a school auditorium. There are 15 rows in the auditorium. Each new seat cost $74. What is the cost for the new seats? Explain how you found your answer.

20. Julius and Walt are finding the product of 25 and 16.

**Part A**

Julius’ answer is incorrect. What did Julius do wrong?

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<tr>
<td>25</td>
<td>× 16</td>
<td>25</td>
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<tr>
<td>150</td>
<td>+ 250</td>
<td>200</td>
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<td>+ 250</td>
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<td>500</td>
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**Part B**

What did Walt do wrong?


**Part A**

What is a reasonable estimate for the total cost of the clothing? Show or explain how you found your answer.

**Part B**

What is the exact answer for the total cost of the clothing? Show or explain how you found your answer.