1. Explain how to find 30×80 using mental math.

2. Mr. Burn's class is taking a field trip to the planetarium. The trip will cost $27 for each student. There are 18 students in his class.

Part A

Round each factor to estimate the total cost of the 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.

GO ON

3. For numbers 3a–3e, select Yes or No to show if the answer is correct.

   3a. $75 \times 10 = 750$ ○ Yes   ○ No

   3b. $14 \times 20 = 280$ ○ Yes   ○ No

   3c. $60 \times 30 = 180$ ○ Yes   ○ No

   3d. $50 \times 50 = 2{,}500$ ○ Yes   ○ No

   3e. $14 \times 30 = 700$ ○ Yes   ○ No

4. There are 28 boxes of pens in Mr. Gardner's supply cabinet. Each box contains 100 pens. How many pens are in the supply cabinet?

   _____ pens

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

   | 50×20 | 25×40 | 30×30 |

   26×37 ☐ 28×31 ☐

   51×21 ☐ 41×24 ☐

6. There are 23 classes in the fourth grade. Each class has 21 students. Write a number sentence that will provide a reasonable estimate for the number of students in the fourth grade. Explain how you found your estimate.

GO ON

7. The model shows 41 × 32. Write the partial products.
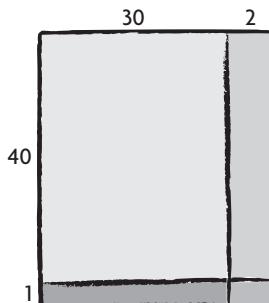
8. Albert made this model to find the product 28 × 43. His model is incorrect.

Part A

What did Albert do wrong?
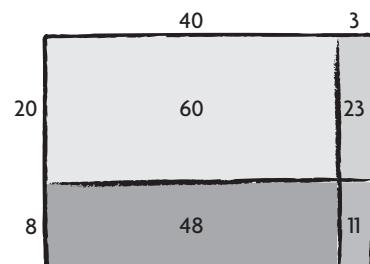
43 × 28 = 142

Part B

Redraw the model so that it is correct.

Part C

What is the product 28 × 43?

9. Tatum wants to use partial products to find 12 × 36. Write the numbers in the boxes to show 12 × 36.

(☐ × ☐) + (☐ × ☐) + (☐ × ☐) + (☐ × ☐)

GO ON

10. Which model can be used to find the product? Write the
letter of the multiplication problem below the model.

Ⓐ 17 × 35   Ⓑ 26 × 14   Ⓒ 13 × 33

	30	3
10	300	30
3	90	9

	30	5
10	300	50
7	210	35

	10	4
20	200	80
6	60	24

_____   _____   _____
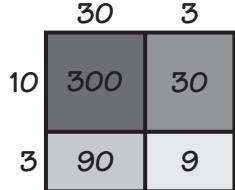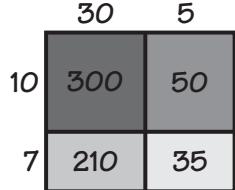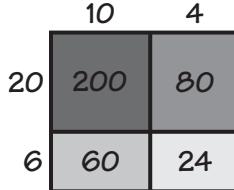
11. Mr. Thomas places orders for pencils with the school
emblem. The order includes 15 boxes of pencils and each
box holds 25 pencils. How many pencils does Mr. Thomas
order? Use partial products to help you find the answer.

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

$$
\begin{array}{r}
51 \\
\times\ 28 \\
\hline
1,\square00 \\
\square00 \\
\square0 \\
+\quad \square \\
\hline
\square,428
\end{array}
$$

| 1 | 2 | 4 | 8 | 0 |

13. Alex has 21 marbles. Zach has 19 times as many marbles as
Alex. How many marbles does Zach have?

_____ marbles

14. Multiply.

51 × 13 = _____

GO ON

15. A farmer planted 38 rows of green beans with 17 plants in each row. How many green bean plants did the farmer grow?

———————— green bean plants

16. Select another way to show 23×29. Mark all that apply.

(A) $(23 \times 20) + (23 \times 9)$

(B) $(23 \times 20) + (23 \times 2) + (23 \times 20) + (23 \times 9)$

(C) $(20 \times 29) + (3 \times 20) + (3 \times 9)$

(D) $(23 \times 20) + (23 \times 3)$

(E) $(20 \times 20) + (20 \times 9) + (3 \times 20) + (3 \times 9)$

17. Val runs 13 laps. Each lap is 72 meters. How many meters does Val run? Show your work.

18. The school principal orders 6 new chalkboards for each grade. There are 3 grades in the school. Each new chalkboard cost $98. What is the total cost for the new chalkboards? Explain how you found your answer.

19. Bill and Alyssa helped pack books to donate to a charity. Bill packed 28 boxes with 30 books in each box. Alyssa packed 31 boxes with 25 books in each box. How many more books did Bill pack? Show your work.

GO ON

20. Steve and Bradley are finding the product of 25 and 21.

Steve	Bradley
25	25
× 21	× 21
250	400
+ 500	10
750	20
	+ 5
	435

Part A

Steve's answer is incorrect. What did Steve do wrong?

Part B

Bradley's answer is also incorrect. What did Bradley do wrong?

Part C

What is the correct product?

21. A music store sells 22 blue MP3 players and 27 red MP3 players. Each MP3 player costs $41.

Part A

What is a reasonable estimate for the total cost of the MP3 players? Show or explain how you found your answer.

Part B

What is the exact answer for the total cost of the MP3 players? Show or explain how you found your answer.

STOP