
1. Use front-end estimation to find the approximate value of each product. Then, indicate if your estimate is the same, an overestimate, or an underestimate of the exact product. Explain your thinking.

a. 28.2×5

b. 41.6×7

c. 59.9×4

d. 73.5×3

2. Use front-end estimation to place each decimal point. Explain your thinking.

a. $3.12 \times 6 = 1872$

b. $15.486 \times 5 = 7743$

c. $8.7 \times 3 = 261$

3. Use the number line and benchmark decimals below to find the approximate value of each product. Then, indicate if your estimate is the same, an overestimate, or an underestimate of the exact product. Explain your thinking using words, pictures and symbols.

a. $0.3 \times 3 =$

b. $0.45 \times 4 =$



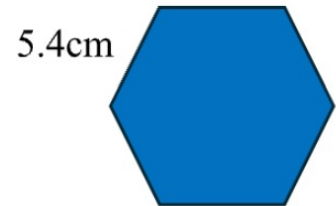
4. Use compatible numbers to find the approximate value of each product. Then, indicate if your estimate is the same, an overestimate, or an underestimate of the exact product. Explain your thinking.

a. 5.48×7

b. 6.893×4.2

c. 374.271×0.6

5. Estimate the perimeter of each polygon. Show your thinking.



6. Estimate the side length of a pentagon with a perimeter of 58.8cm.

7. Is 8.45×5 greater than, or less than, 40? How can you estimate to find out?

8. Place the decimal in the product. Justify your thinking.

$$5.43 \times 6$$

3258

Place the
Decimal...Justify!

$$344.9 \times 4.3$$

148307

Place the
Decimal...Justify!

9. How can you use repeated addition to multiply 365.78 by 4?
Represent your thinking using words, pictures, and symbols.

10. Use repeated addition to multiply the following:

a. $7.896 \times 5 =$

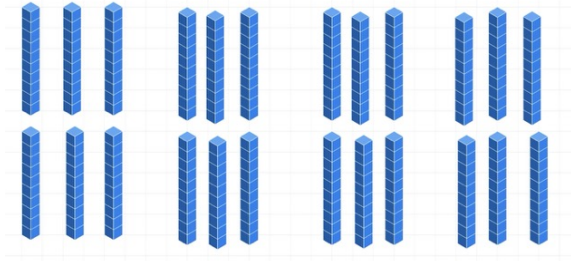
b. $0.4012 \times 3 =$

c. $591.3 \times 9 =$

11.

Represent the decimal value using Base-Ten Blocks	Represent the Question Using Base-Ten Blocks
$0.4 \times 3 =$	
Regroup Using Base-Ten Blocks	Complete the multiplication statement. $0.4 \times 3 = \underline{\quad}$

12. Find the product using base-ten blocks. What multiplication statement represents the model?



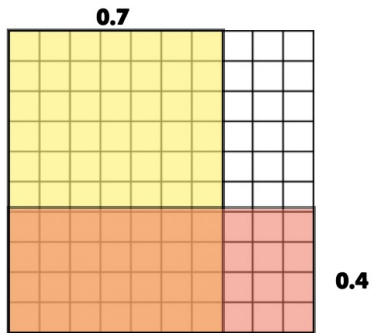
13. Use base-ten blocks to multiply. Use pictures and symbols to show your thinking.

a. $0.8 \times 5 =$

b. $2.3 \times 4 =$

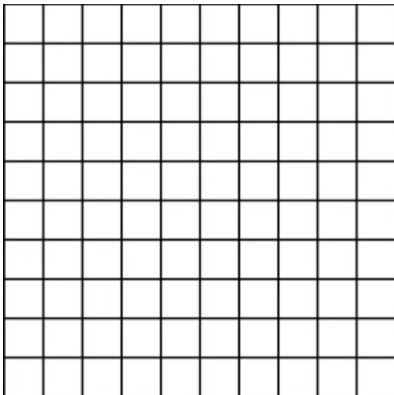
c. $3.96 \times 3 =$

14. Write a multiplication statement to represent the model below.

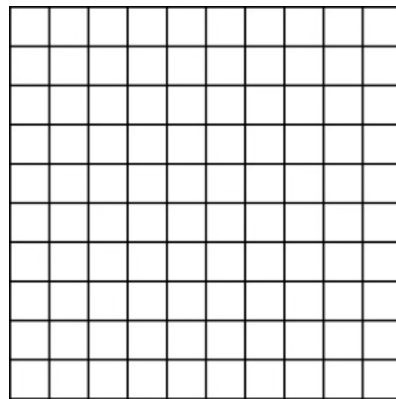


15. Use the grid below to find the product.

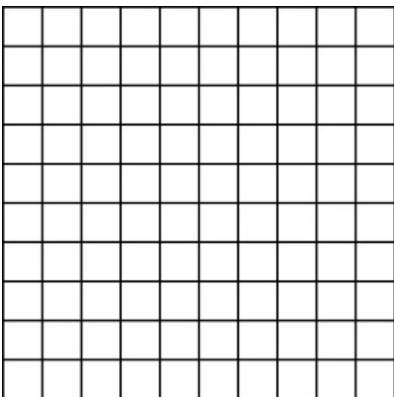
a. $0.4 \times 0.9 =$



b. $0.8 \times 0.6 =$



c. $0.3 \times 0.5 =$



16.

Multiplying Decimals Using Area Models

<p>Complete the area model to find the product of 30.5×5.3.</p> <div style="text-align: center; margin: 10px 0;"> _____ _____ </div> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px; text-align: right;"> _____ _____ </div> <div style="border: 1px solid black; width: 400px; height: 150px; display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 100%; height: 50%;"></div> <div style="width: 100%; height: 50%;"></div> </div> </div>	<p style="text-align: center;">Sum of Products</p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;">Multiplication Statement</p> <p style="text-align: center;">____ x ____ = ____</p>
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<p>Complete the area model to find the product of 12.52×13.91.</p> <div style="text-align: center; margin: 10px 0;"> _____ _____ </div> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px; text-align: right;"> _____ _____ </div> <div style="border: 1px solid black; width: 400px; height: 150px; display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 100%; height: 50%;"></div> <div style="width: 100%; height: 50%;"></div> </div> </div>	<p style="text-align: center;">Sum of Products</p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;">Multiplication Statement</p> <p style="text-align: center;">____ x ____ = ____</p>
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17. Use an area model to multiply. Use pictures and symbols to show your thinking.

a. $2.8 \times 6 =$

b. $4.125 \times 5 =$

c. $582.37 \times 14 =$

18. Use place value and reordering (standard algorithm strategy) to find the product.

a. $148.73 \times 5 =$

b $0.125 \times 0.368 =$

c. $0.456 \times 1.789 =$

19. Max weighs 107 pounds. On mercury she would weigh 0.36 times that amount. How much would she weigh on Mercury?

20. There are 400 mangoes in a barrel. Each mango weighs 0.75 pounds. What is the total weight of the mangoes in the barrel.

21. George bought 12 tickets for him and his friends to see his favourite band in concert at a cost of \$125.50 per ticket. What is the total cost of all 12 tickets?

22. The Grade 6 class is selling reusable water bottles for \$4.75 each. They sold 36 bottles in the first week and 24 bottles in the second week. How much money did they raise in total over the two weeks?

23. A bag of apples weighs 1.25 kg. A shopper buys 4.5 bags. If each kilogram of apples costs \$3.20, how much will the shopper pay in total?

24. Each paintbrush costs \$2.39. A teacher buys 15 paintbrushes and 8 palettes that cost \$3.75 each. What is the total cost of all the art supplies?

25. A special consisting of a sandwich, soup and juice cost \$14.80. If you paid for 5 of these meals, how much change should you get back from a 100-dollar bill?
Anoop paid a total of \$51.83, before taxes, for a cap and three pens. If the cap cost \$36.98, how much did each pen cost?

1. Use front-end estimation to find the approximate value of each quotient. Then, indicate if your estimate is the same, an overestimate, or an underestimate of the exact product. Explain your thinking.

a. $55.3 \div 5 =$

b. $44.7 \div 7 =$

2. The decimal point is missing in each quotient. Use estimation to place each decimal point. Explain your thinking.

a. $8.2 \div 2 = 41$

b. $11.919 \div 9 = 1324$

3. Estimate (use either rounding, front-end estimation, or compatible numbers), then divide using repeated subtraction.

a. $2.8 \div 4 =$

b. $5.25 \div 5 =$

c. $8.1 \div 3 =$

d. $64.3 \div 8 =$

e. $79.8 \div 5 =$

4. Estimate (use either rounding, front-end estimation, or compatible numbers), then divide using repeated subtraction.

a. $2.8 \div 4 =$

b. $5.25 \div 5 =$

c. $8.1 \div 3 =$

d. $64.3 \div 8 =$

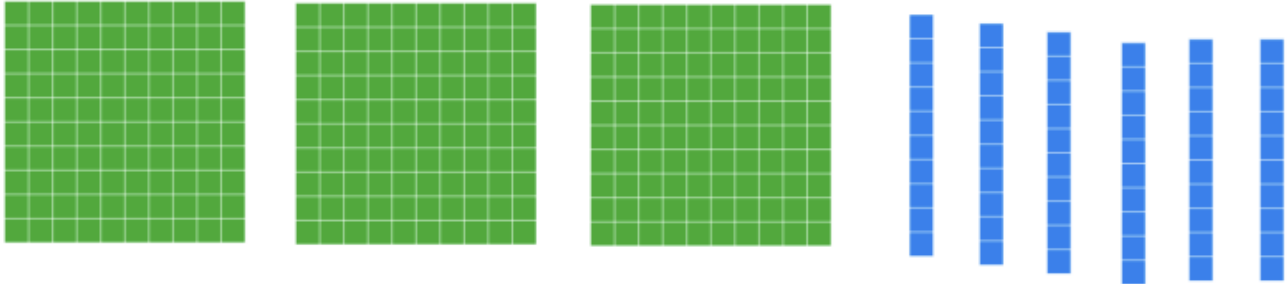
e. $79.8 \div 5 =$

f. $18.4 \div 8 =$

g. $220.15 \div 7 =$

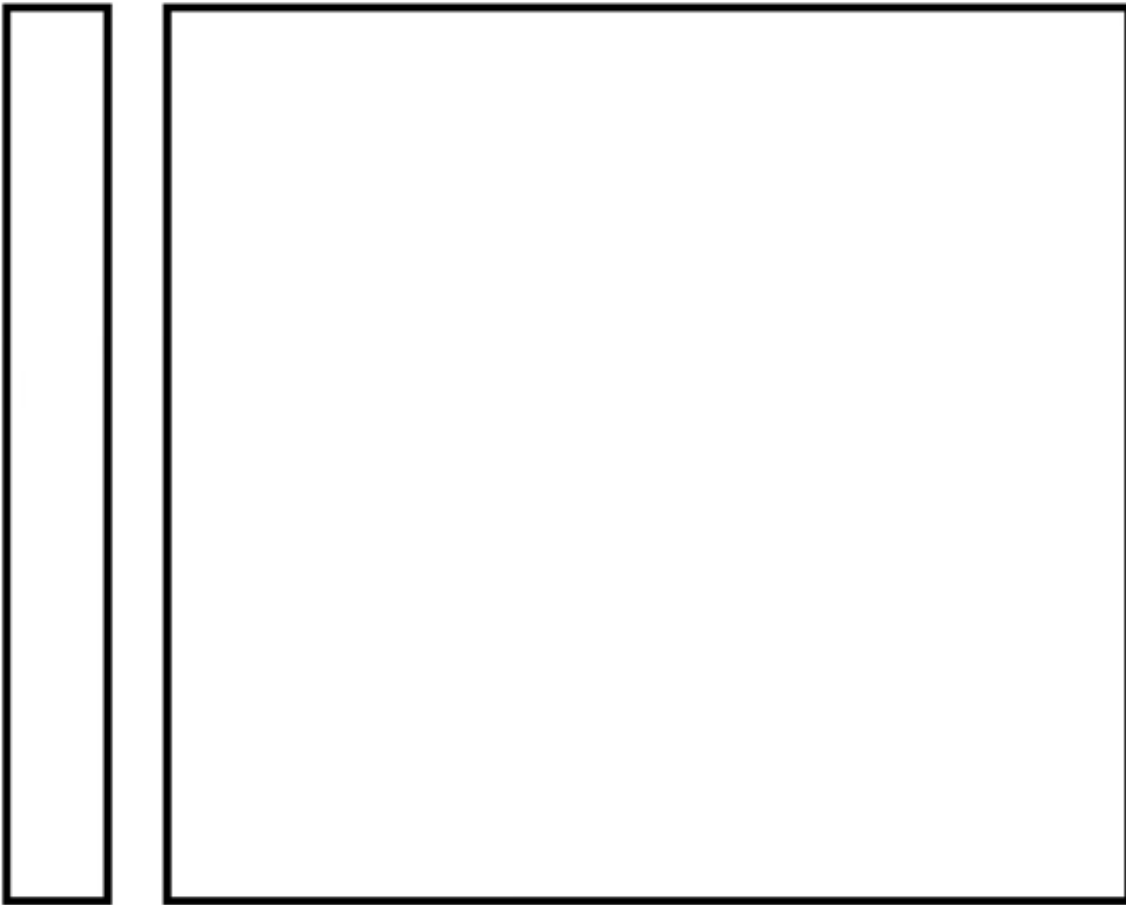
h. $71.5 \div 6.5 =$

5. Use base-ten blocks to find the quotient. The first step has been completed for you. Continue by showing the remaining steps needed to solve this division problem.
 $3.9 \div 6 = ?$



6. Use the multiplication mat and base-ten blocks to divide 6.4 by 4.

Multiplication Mat



Multiplication Statement	Division Statement

7. Use base-ten blocks to divide. Show your thinking using pictures and symbols.

a. $36.8 \div 8 =$

b. $12.66 \div 6 =$

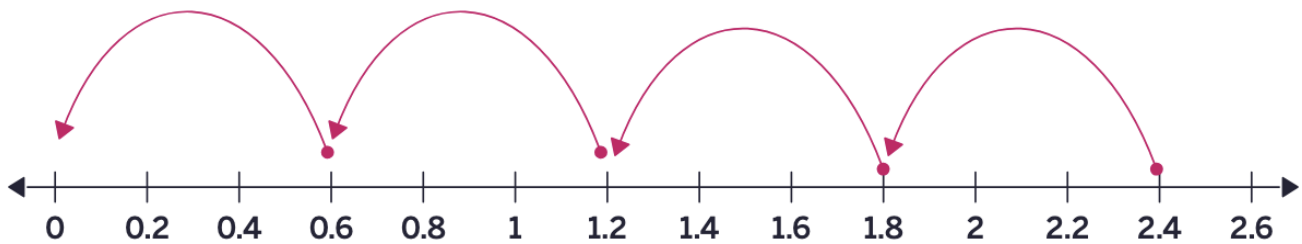
c. $425.7 \div 9 =$

d. $1.68 \div 3 =$

8. The decimal point in the quotient is in the wrong place. Identify the mistake, then write the quotient with the decimal point in the correct place.

$$15.805 \div 5 = 316.1$$

9. What division statement can be written to represent the model below?



10. A student solved $24.6 \div 0.6$ using partial quotients. Review their work below and circle the one mistake they made and describe the error. Then, determine the correct quotient using partial quotients.

Student Work:

Step 1: $0.6 \times 40 = 24$
 $24.6 - 24 = 0.4$

Step 2: $0.4 < 0.6$, so no more groups can be made

Step 3: Final Answer: 40 remainder 0.4

11. Use the standard algorithm strategy (standard step-by-step long division process) to divide.

a. $9.3 \div 6 =$	b. $11.68 \div 9 =$
c. $0.142 \div 8 =$	d. $240 \div 0.8 =$
e. $75 \div 0.6 =$	f. $13.5 \div 1.5 =$

12. How many quarters are in \$14.75?

13. How many nickels are in 36.25?

14. Jim cut a wooden stick which was 33.6cm long into 3 equal pieces. How long was each piece?

15. I am a number between 1 and 10. When you multiply me by 7, I have a product of 47.6. What number am I?

16. Five tins of soup cost \$4.45. How much would three tins cost?

17. Mr. Tierny purchased a new TV set for \$5284.20. If he paid for it in 12 equal monthly payments, how much did he pay each month?

18. Three oranges cost the same as two apples. If six apples cost \$4.05, how much would one orange cost?

19. Joanne worked 5 hours each weekday for two weeks. If she was paid a rate of \$13.50 per hour, how much would she have earned at the end of two weeks?

20. A triangular park has a perimeter of 11.4 km. How long is each side of the triangle?

21. Alice plans a weekly food budget of \$45.60. She wants to spend 0.75 of that on groceries and the rest on dining out.

- a. How much will she spend on groceries?
- b. How much remains for dining out?

22. A family's monthly utility budget is \$95.40. They discover that they can reduce usage by 12% by changing habits.
- By how many dollars will their bill decrease?
 - What will the new bill be?

23. A ride-sharing app charges \$18.45 for a trip, split equally among 4 friends. How much does each friend owe?

24. A printer cartridge lasts for 375 pages and costs \$24.99. What's the cost per page?

25. How can you model $16.8 \div 12$ using base-ten blocks? What is the quotient?

26. Estimate a solution and record it. Then, show at least 3 different ways to solve each question. Use pictures, words, numbers and/or symbols to represent your thinking.

a. $3.29 \times 200 =$

b. $4.573 \div 5 =$

27. Use both the long-division algorithm and an area-model diagram to divide 60.84 by 4. Then, answer:
- What steps or ideas are the same in both methods?
 - What steps or ideas are different?

28. Would you rather multiply 3.5 by 4 or divide 35 by 0.4? Explain your choice and your strategy for solving.

29. Make up two different decimal multiplication problems that have the same answer as 0.8×5 . How do you know the answers are equal?

30. Which one doesn't belong? Justify your thinking using math.

2×1.6	$4 \div 0.5$
3.2×1	$16 \div 5$

31. You have 2.5 meters of ribbon. You want to cut it into equal pieces. What are possible ways you could divide it to get whole number or decimal lengths? How do you know?

32. Create a math story that could be solved by multiplying two decimals and a math story that could be solved by dividing a decimal by a whole number. Show two ways to solve one of your stories.

33. How can you use partial quotients to divide 7.2 by 3?

34. You multiply two decimal numbers and the answer is slightly less than 7. What might they be?

35. Choose a value for the jump size and point A so that this picture shows division with a decimal(s). What division does it show? Notice that the jump to 0 is a different size from all the others.

