

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

Name: _____

Date: _____

Class/Period: _____

10.1 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A theater has 16 rows of 28 seats and blocks 47 seats for equipment. How many seats can be sold? Write one expression, solve, and interpret the answer.

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seat array model

10.2 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A school receives 18 boxes of 24 pencils and gives 137 pencils to classrooms. How many pencils remain? Write one expression, solve, and interpret the answer.

10.3 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A printer makes 86 pages each minute for 7 minutes, and 64 pages are discarded. How many usable pages remain? Write one expression, solve, and interpret the answer.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.4 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A cafeteria prepares 525 sandwiches and packs 18 in each tray. How many full trays can be made and how many sandwiches remain? Write one expression, solve, and interpret the answer.

10.7 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A problem gives the trail length, distance walked, hiker's shirt color, time stopped. Classify each item as useful, extra, or missing if the goal is distance remaining.

10.5 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A bus holds 48 passengers and 263 students must travel. How many buses are needed? Write one expression, solve, and interpret the answer.

10.8 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A problem gives the room dimensions, tile cost per square foot, wall color, number of windows. Classify each item as useful, extra, or missing if the goal is flooring cost.

10.6 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A problem gives the price of one notebook, number bought, cover color, amount paid. Classify each item as useful, extra, or missing if the goal is change due.

10.9 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A problem gives the number of teams, players per team, mascot name, absent players. Classify each item as useful, extra, or missing if the goal is players present.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.10 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A class collects \$742. Ticket sales contribute \$486 and donations contribute the rest. If each donation is \$8, identify the hidden question and find the number of donations.

10.11 Directions:

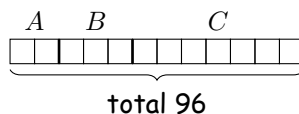
Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A number is multiplied by 6, decreased by 11, and the result is 43. Work backward to find the number, then check forward.

10.12 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Three friends share 96 stickers in the ratio 2:3:7. Draw a tape diagram, identify the value of one unit, and find each share.



10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.13 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A store receives 14 cartons of 36 cans, sells 287 cans, and donates 45. Write one equation for the cans left and evaluate it.

10.14 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A warehouse has 728 bottles packed in cases of 24. State the quotient and remainder, then explain what each means.

10.15 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A school needs at least 950 notebooks sold in boxes of 36. Explain why rounding to the nearest whole number is inappropriate, then find the number of boxes.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.16 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Choose exactly two toppings from A, B, C, and D. Complete an organized list and explain how you avoid repeats.

10.17 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Use guess-check-improve to find two whole numbers with sum 53 and product 660. Record at least two guesses and explain how each guides the next.

10.18 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A two-digit number has digit sum 11. Reversing the digits increases the number by 27. Use an organized list to find the number.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.19 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A student says operation order in a word problem is always the order numbers appear. Create a counterexample and explain the correct structure.

10.21 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A garden has perimeter 54 m and length 17 m. Choose the most efficient representation among a diagram, table, equation, or organized list. Solve and defend the choice.

10.20 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Write two contexts for the division 317 divided by 24: one where the final answer uses only the quotient and one where the quotient must be rounded up.

10.22 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A school buys 9 marker packs and 6 pencil packs for \$78. Marker packs cost \$6 each. Build and solve an equation for one pencil pack.

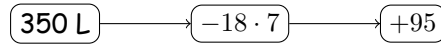
10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.23 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A tank starts with 350 L, loses 18 L per hour for 7 hours, then receives 95 L. Use the flow diagram to justify the operation order and find the final amount.



10.24 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A farmer has chickens and goats with 42 heads and 116 legs. Build a table or equation model and find the number of each animal.

10.25 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A merchant has weights of 1, 3, 9, and 27 grams. List all masses from 1 through 15 grams that can be measured if weights may be placed on both sides of a balance.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.26 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Create a three-step problem whose answer is 48, then write a complete modeling response with KNOWS, hidden question, equation, work, and interpretation.

10.27 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A theater sells 186 tickets. Adult tickets cost \$12 and student tickets cost \$8, but the total revenue is not given. Explain why the number of each ticket type cannot be determined, then name one missing fact that would make the problem solvable.

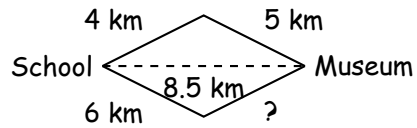
10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.28 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A route diagram shows three possible paths from school to a museum. One path has an unlabeled segment. Decide what can be compared now and what measurement is still needed.



10.29 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A number is multiplied by 4, decreased by 7, and then divided by 3 to give 11. Work backward and verify by following the operations forward.

10.1 Problem Solving Strategies and Representations

Chapter 10: Final Cumulative Review

10.30 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A bus holds 48 students. A school must transport 317 students. Explain why the quotient, the remainder, and the final number of buses answer three different questions.