4-1

Homework

Name _____ Date _____

Simplify each expression.

1. $11m - 9m =$ ____
2. $y + 8y =$ ____
3. $13s - s =$ ____
4. $d + 2d + d =$ ____
5. $(9b - b) - 2b =$ ____
6. $104z + z =$ ____
7. $21 - (10 - 5) =$ ____
8. $(900 - 100) - 100 =$ ____
9. $90 - (50 - 1) =$ ____
10. $18 \div (27 \div 9) =$ ____
11. $(63 \div 7) \div 9 =$ ____
12. $40 \div (36 \div 9) =$ ____
13. $(48 \div 6) \cdot (11 - 9) =$ _____
14. $(3 + 17) \div (16 - 12) =$ _____
15. $(15 + 10) - (50 \div 10) =$ _____
16. $(19 + 11) \div (9 - 6) =$ _____

Evaluate.

17. $c = 3$

    $4 \cdot (7 - c)$

    _____

18. $r = 2$

    $(42 \div 7) \cdot (r + 1)$

    _____

19. $w = 7$

    $(72 \div 9) \cdot w$

    _____

20. $m = 0$

    $(12 \div 3) \cdot (5 - m)$

    _____

21. $h = 14$

    $45 \div (h - 5)$

    _____

22. $p = 19$

    $(p + 1) \div (9 - 4)$

    _____

23. $v = 6$

    $(18 - 9) + (2 + v)$

    _____

24. $t = 1$

    $(7 \cdot 2) \div t$

    _____

25. $g = 10$

    $(g + 90) \div (17 - 13)$

    _____

Solve for ☐ or *n*.

26. $7 \cdot (3 + 2) = 7 \cdot \square$

    $\square =$ ____

27. $(9 - 1) \cdot 4 = \square \cdot 4$

    $\square =$ ____

28. $8 \cdot (4 + 5) = \square \cdot 9$

    $\square =$ ____

29. $6 \cdot (8 - 8) = n$

    $n =$ ____

30. $(12 - 6) \div 3 = n$

    $n =$ ____

31. $(21 \div 7) \cdot (5 + 5) = n$

    $n =$ ____

4-2

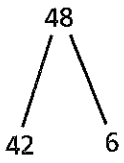
Homework

Name _____ Date _____

Write = or ≠ to make each statement true.

1. $5 + 2 + 6 \bigcirc 6 + 7$
2. $90 \bigcirc 110 - 9$
3. $70 \bigcirc 30 + 30$
4. $70 \bigcirc 95 - 25$
5. $2 + 8 + 10 \bigcirc 30$
6. $27 - 10 \bigcirc 14 + 3$
7. $51 + 99 \bigcirc 150$
8. $35 \bigcirc 100 - 55$
9. $50 \bigcirc 20 + 5 + 20$

10. Write the eight related addition and subtraction equations for the break-apart drawing.



_____ _____

_____ _____

_____ _____

_____ _____

Write an equation to solve the problem. Draw a model if you need to. *Show your work.*

11. There were some people at the arts and crafts fair. Then 347 people went home. Now 498 people are left at the fair. How many people were at the fair to start?

_____

_____

12. A group of scientists spends 3,980 hours observing the behavior of monarch butterflies. They spend some more hours recording their observations. Altogether, the scientists spend 5,726 hours observing the butterflies and recording their observations. How many hours do the scientists spend recording their observations?

_____

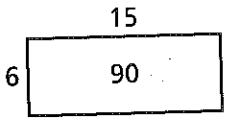
_____

4-3

Homework

Name _____ Date _____

1. Write the eight related multiplication and division equations for the rectangle model below.



_____ _____

_____ _____

_____ _____

_____ _____

Solve each equation.

2. $r = 200 \div 5$

   $r =$ _____

3. $12 \times d = 84$

   $d =$ _____

4. $80 \div 10 = n$

   $n =$ _____

5. $120 = 10 \times m$

   $m =$ _____

6. $88 = 8 \times c$

   $c =$ _____

7. $100 \div q = 20$

   $q =$ _____

Write an equation to solve the problem. Draw a model f you need to.

Show your work.

8. Lucy bought some shrubs to plant in her garden. Each shrub cost $9. If Lucy spent $216 in all, how many shrubs did she buy?

   _____

   _____

9. Jeremiah has 592 flyers in stacks of 8 flyers each. How many stacks of flyers did Jeremiah make?

   _____

   _____

10. The apples from an average-sized tree will fill 20 baskets. If an orchard has 17 average-sized trees, how many baskets of apples can it produce?

    _____

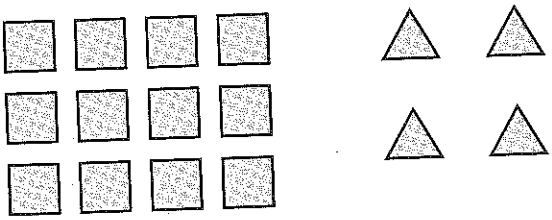
    _____

4-4

Homework

Name _____ Date _____

Use the shapes to answer Exercises 1–4.



1. How many squares? How many triangles? Use multiplication to find the answers.

_____

2. Because 4 × _____ = 12, there are _____ times as many squares as triangles.

3. Write a multiplication equation that compares the number of squares *s* to the number of triangles *t*.

_____

4. Write a division equation that compares the number of triangles *t* to the number of squares *s*.

_____

Solve each comparison problem.

5. Stephen and Rocco were playing a video game. Stephen scored 2,500 points which is 5 times as many points as Rocco scored. How many points did Rocco score?

_____

6. Nick's dog weighs 72 pounds. Elizabeth's cat weighs 9 pounds. How many times as many pounds does Nick's dog weigh as Elizabeth's cat weighs?

_____

4-5

Homework

Name _____ Date _____

Write and solve an equation to solve each problem. Draw comparison bars when needed.

Show your work.

1. This year, a business had profits of $8,040. This is 4 times as great as the profits that the business had last year. What were last year's profits?

_____

2. In July, 74,371 people visited an art museum. In August 95,595 people visited the art museum. How many fewer people visited the art museum in July than in August?

_____

3. Drake has 36 animal stickers. Brenda has 9 animal stickers. How many times as many animal stickers does Drake have as Brenda has?

_____

4. A game is being watched by 60 adults and some children. If there are 20 more adults than children, how many children are watching the game?

_____

5. During the first lunch period, 54 students ate hot lunch. This is 9 fewer students than ate hot lunch during the second lunch period. How many students ate hot lunch during the second lunch period?

_____

6. The Jenkins Family traveled 750 miles by car during the summer. The Palmer Family traveled 3 times as many miles by car this summer. How many miles did the Palmer Family travel?

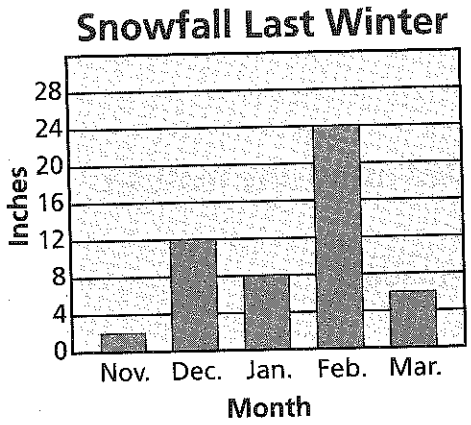
_____

4-6

Homework

Name _____ Date _____

The graph below shows the amount of snow recorded each month last winter. Use the graph for Problems 1–6.



1. During which month was the amount of snow recorded 12 inches greater than the amount of snow recorded in December?

_____

2. How many fewer inches of snow were recorded in March than were recorded in February?

_____

3. The total amount of snow shown in the graph is 4 times as much snow as was recorded during the winter of 2004. How much snow was recorded during the winter of 2004?

_____

4. Write an addition equation and a subtraction equation that compare the number of inches of snow recorded during December *(d)* to the number of inches of snow recorded during March *(m)*.

_____

5. Write a multiplication equation and a division equation that compare the number of inches of snow recorded during November *(n)* to the number of inches of snow recorded during January *(j)*.

_____

6. On a separate sheet of paper, write a sentence about the graph that contains the words *times as much.*

4-7

Homework

Name _____ Date _____

Use an equation to solve. Show your work.

1. The soccer club has 127 members. The baseball club has 97 members. Both clubs will meet to discuss a fundraiser. The members will be seated at tables of 8 members each. How many tables will they use?

_____

2. A hardware store pays $3,500 for 42 lawnmowers. Then the store sells the lawnmowers for $99 each. How much profit does the store make from the lawnmower sales?

_____

3. George buys a set of 224 stamps. He gives 44 stamps to a friend. Then he places the remaining stamps into an album with 5 stamps on each page. How many pages does he fill in his album?

_____

4. Shane and his family go to the movie theater and buy 6 tickets for $12 each. Then they spend a total of $31 for popcorn and drinks. How much did Shane and his family spend for tickets, popcorn and drinks at the movie theater?

_____

5. Last year, 226 people attended the school graduation ceremony. This year, the school expects 125 more people than last year. The school has arranged for a van to transport people from the parking area to the ceremony. Each van holds 9 people. How many trips will the van make?

_____

4-8

Homework

Name _____ Date _____

Use an equation to solve. Show your work.

1. Rosa and Kate both went shopping. Kate bought a jacket for $45 and boots for $42. Rosa bought jeans for $27, a sweater for $22, and sneakers. They both spent the same exact amount of money. How much were Rosa's sneakers?

_____

2. Kyle works at a bakery on weekends. On Saturday, Kyle needs to make 120 muffins. Each recipe makes 8 muffins and uses 2 cups of flour. On Sunday, he needs to bake a large batch of cookies that uses 6 cups of flour. How many cups of flour will Kyle use to bake the muffins and the cookies?

_____

3. A toy factory made 715 small stuffed bears and packed them in boxes with 5 bears in each box. Then they made 693 large stuffed bears and packed them in boxes with 3 bears in each box. All the boxes of small and large stuffed bears are loaded into a truck for delivery. How many boxes are loaded into the truck?

_____

4. Last summer, Chris went to Europe and bought postcards from the cities he visited. In France, he visited 6 cities and bought 11 postcards in each city. In Italy, he visited 7 cities and bought 9 postcards in each city. In Spain, he visited 10 cities and bought 15 postcards in each city. How many postcards did Chris buy in Europe?

_____

5. Three fourth grade classes went on a field trip to see a play. Each class had 19 students and 2 adults attending. The rows in the playhouse each seat 9 people. How many rows did the fourth grade classes and adults take up at the playhouse?

_____

4-9

Homework

Name _____ Date _____

Solve each problem.

1. $5 \times 7 + 9 = t$

_____

2. $9 \times (1 + 3) = m$

_____

3. $7 - 2 \times 2 = k$

_____

4. $(7 \times 2) + (4 \times 9) = w$

_____

5. $(7 - 2) \times (3 + 2) = r$

_____

6. $8 \times (12 - 7) = v$

_____

7. Whitney and Georgia are at the snack bar buying food for their family. Sandwiches cost $4 each. Salads cost $2 each. How much money will it cost them to buy 5 sandwiches and 7 salads?

_____

8. Lisa put tulips and roses into vases. Each vase has 12 flowers. The red vase has 7 tulips. The blue vase has twice as many roses as the red vase. How many roses are in the blue vase?

_____

9. Pam has 9 bags of apples. Each bag contains 6 apples. There are 3 bags of red apples and 1 bag of green apples. The rest of the bags contain yellow apples. How many more yellow apples are there than red apples?

_____

10. Clay works on a farm. He packaged eggs into containers that hold 1 dozen eggs each. He filled 4 containers with white eggs and 5 containers with brown eggs. How many eggs did Clay collect? Hint: one dozen eggs = 12 eggs

_____

4-10

Homework

Name _____ Date _____

List all the factor pairs for each number.

1. 49

_____

2. 71

_____

3. 18

_____

4. 57

_____

Write whether each number is *prime* or *composite*.

5. 50

_____

6. 29

_____

7. 81

_____

8. 95

_____

9. 19

_____

10. 54

_____

Tell whether 6 is a factor of each number. Write *yes* or *no*.

11. 6

_____

12. 80

_____

13. 36

_____

14. 72

_____

Tell whether each number is a multiple of 8. Write *yes* or *no*.

15. 64

_____

16. 32

_____

17. 88

_____

18. 18

_____

Use the rule to complete the pattern.

19. Rule: skip count by 11

11, 22, _____, _____, 55, _____, _____, 88, 99

20. Rule: skip count by 9

9, _____, 27, _____, 45, _____, 63, _____, 81, _____

21. Rule: skip count by 8

8, 16, 24, _____, _____, _____, _____, 64, 72, _____

4-11 Homework

Name _____ Date _____

Use the rule to find the next three terms in the pattern.

1. 2, 6, 18, 54, ...

   Rule: multiply by 3

   _____

2. 115, 145, 175, 205, 235, ...

   Rule: add 30

   _____

Use the rule to find the first ten terms in the pattern.

3. First term: 12 Rule: add 25

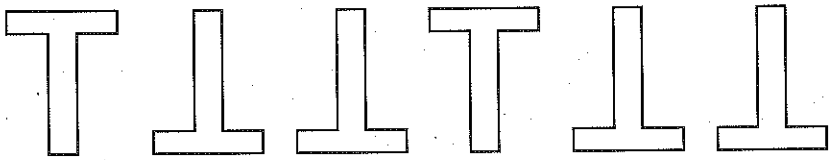
   _____

Make a table to solve.

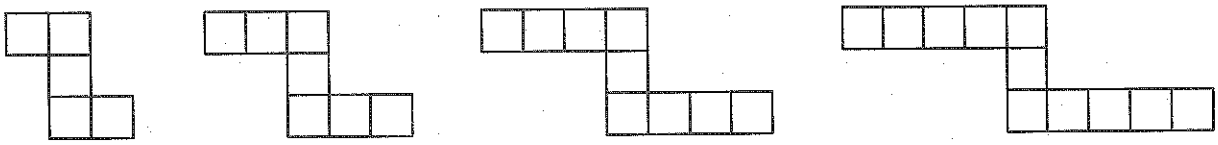
4. Jay saves $2 in June, $4 in July, $6 in August, and $8 in September. If the pattern continues, how much money will Jay save in December?

   _____

Describe the next term of each pattern.

5. 

   _____

6. 

   _____

   _____

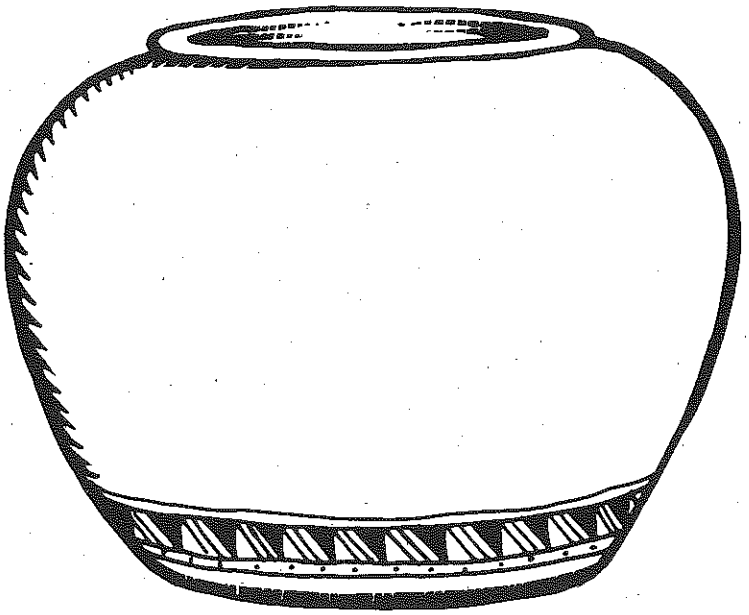
4-12

Homework

Name _____ Date _____

1. Design the blank pot below by drawing a pattern that meets the following conditions.

   - At least three different shapes are used.
   - The pattern begins with a square or a circle.
   - The pattern is repeated at least two times.
   - At least two different colors are used.



2. Describe your pattern.

   _____

   _____

3. Suppose 184 students from Wilson Middle School complete this page at home. If each student draws 9 shapes on his or her pot, how many shapes in all would be drawn?

   _____