## What Should I Be Able to Do?

## LESSON

1. Use the divisibility rules to find the factors of 90.
2. Which of these numbers is 23640 divisible by? How do you know?
a) 2
b) 3
c) 4
d) 5
e) 6
f) 8
g) 9
h) 10
i) 0
3. I am a 3-digit number.

I am divisible by 4 and by 9 .
My ones digit is 2 .
I am less than 500.
Which number am I?
Find as many numbers as you can.
4. Draw a Venn diagram with 2 loops. Label the loops "Divisible by 6," and "Divisible by 9."
a) Should the loops overlap? Explain.
b) Write these numbers in the Venn diagram.
$330 \quad 639 \quad 5598 \quad 10217$

229585818712006
How did you know where to put each number?
5. i) Write an algebraic expression for each statement.
ii) Evaluate each expression by replacing the variable with 8.
a) five less than a number
b) a number increased by ten
c) triple a number
d) six more than three times a number
1.4
6. There are $n$ women on a hockey team.
Write a relation for each statement.
a) the total number of hockey sticks, if each player has 4 sticks
b) the total number of lockers in the dressing room, if there are 3 more lockers than players
c) the total number of water jugs on the bench, if each group of 4 players shares 1 jug
1.5 7. Copy and complete each table. Explain how the Output number is related to the Input number.
a)

| Input | Output <br> $n$ |
| :---: | :---: |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

b)

| Input | Output <br> $n$ |
| :---: | :---: |
| $5 n+1$ |  |$|$| 1 |
| :---: |

c)

| Input | Output |
| :---: | :---: |
| $n$ | $6 n-3$ |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

8. Use algebra. Write a relation for each Input/Output table.
a)

| Input <br> $n$ | Output |
| :---: | :---: |
| 1 | 12 |
| 2 | 13 |
| 3 | 14 |
| 4 | 15 |

b)

| Input <br> $n$ | Output |
| :---: | :---: |
| 1 | 2 |
| 2 | 7 |
| 3 | 12 |
| 4 | 17 |

9. Match each graph with one of the relations below.
a)

c)

b)

10. For each relation below:
i) Describe a real-life situation that could be represented by the relation.
ii) Make a table of values.
iii) Graph the relation.
iv) Describe the graph.
v) Write 2 questions you could answer using the graph. Answer the questions.
a) $4+2 m$ is related to $m$.
b) $15-2 d$ is related to $d$.
11. Gerad is paid $\$ 6$ to supervise a group of children at a day camp. He is paid an additional $\$ 2$ per child.
a) Write a relation to show how the total amount Gerad is paid is related to the number of children supervised, c.
b) Copy and complete this table of values for the relation.

| c | Amount Paid <br> $(\$)$ |
| :---: | :---: |
| 0 |  |
| 5 |  |
| 10 |  |
| 15 |  |

c) Draw a graph to show the relation. Describe the graph.
d) Use the graph to answer these questions:
i) How much money is Gerad paid when he supervises 25 children?
ii) Gerad was paid $\$ 46$.

How many children did he supervise? Show your work.
12. Suggest a real-life situation that could be represented by this graph.

13. Write an equation for each sentence.
a) A pizza with 15 slices is shared equally among $n$ students. Each student gets 3 slices.
b) Four less than three times the number of red counters is 20 .
14. The drum ring of this hand drum is a regular octagon. It has perimeter 48 cm . Write an equation you could use to find the side length of the drum ring.

15. i) Write an equation you can use to solve each problem.
ii) Use tiles to solve each equation.
iii) Draw pictures to represent the steps you took to solve each equation.
iv) Use tiles to verify each solution.
a) Thirty-six people volunteered to canvas door-to-door for the Heart and Stroke Foundation. They were divided into groups of 3 . How many groups were there?
b) A garden has 7 more daffodils than tulips. There are 18 daffodils. How many tulips are there?
c) A sleeve of juice contains 3 juice boxes. Marty buys 24 juice boxes. How many sleeves does he buy?
d) Jan collects foreign stamps.

Her friend gives her 8 stamps.
Jan then has 21 stamps. How many stamps did Jan have to start with?
16. A number is multiplied by 4 , then 5 is added. The result is 21 . What is the number?
a) Write an equation to represent this situation.
b) Solve the equation to find the number.
c) Verify the solution.

