Step-by-Step 1

Lesson 2.1, Question 15

You will need coloured tiles and a copy of *Number Lines* (Master 2.10).

Step 1   Use coloured tiles to model $(-7) \times (-8)$.

Look at the first factor in the product.

Do you put tiles into the circle or take tiles out of the circle? _____

How many sets do you put in or take out? _____

Do you need to add zero pairs to the circle? Explain. _____

_____

_____

_____

Look at the second factor.

How many tiles are in each set? _____

Are they red or yellow? _____

If you need to add zero pairs to the circle, how many pairs do you need to add? _____

Model the product using coloured tiles. Sketch the tiles you used.

Step-by-Step 1 continued

Step 2 Use a number line to model $(-7) \times (-8)$.

Look at the first factor in the product.

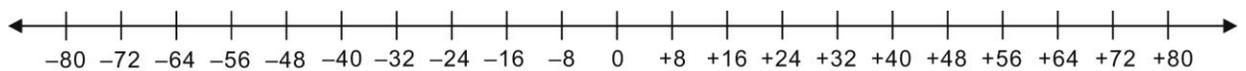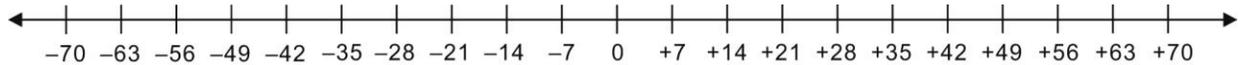Do you face the positive or the negative end of the line? _____

How many steps do you take? _____

Look at the second factor.

Do you walk forward or backward? _____

What is the size of each step? _____

Use **one** of the number lines below to model the product.

Step 3 Can you think of any other ways to model the product?

Step 4 Which strategy do you prefer? Explain.

Step-by-Step 2

Lesson 2.2, Question 11

Step 1   Use the table below to calculate possible products.

First Factor	Second Factor	Product

Step 2   What is the greatest product? _____

How do you know? _____

Name the two integers with the greatest product: _____ and _____

Step 3   What is the least product? _____

How do you know? _____

Name the two integers with the least product: _____ and _____

Step-by-Step 3

Lesson 2.3, Question 14

Step 1   Write a multiplication expression related to this division expression.

Division expression: $(+45) \div (-5) = \square$

Multiplication expression: _____

Step 2   Write a word problem for the multiplication expression.

_____

_____

Step 3   Solve the problem using coloured tiles. Sketch the tiles you used.

Step 4   Solve the problem using a number line. Sketch the number line you used.

Step 5   Show any other ways you could solve the problem.

Step-by-Step 4

Lesson 2.4, Question 16

Step 1   Name the dividend, divisor, and quotient in the division statement $(+24) \div (-4) =$ -6.

Dividend: _____ Divisor: _____ Quotient: _____

Step 2   Complete this table. The first row has been done for you.

Division Expression	Quotient	Quotient less than, greater than, or between dividend and divisor?	Sign of dividend	Sign of divisor	Is divisor less than the quotient?
$(+10) \div (+2)$	+5	between	+	+	Yes
$(+10) \div (+5)$					
$(+10) \div (-2)$					
$(+10) \div (-5)$					
$(-10) \div (+2)$					
$(-10) \div (+5)$					
$(-10) \div (-2)$					
$(-10) \div (-5)$					

When two integers are divided, the quotient is:

a)   less than both integers when _____

b)   greater than both integers when _____

c)   between both integers when _____

_____

Step 3   Evaluate.

$(+10) \div (+10) =$ $(+10) \div (-10) =$ $(0) \div (+10) =$ _____

$(-10) \div (-10) =$ $(-10) \div (+10) =$ $(0) \div (-10) =$ _____

When two integers are divided, the quotient is:

a) $+1$ when _____

b) -1 when _____

c) 0 when _____

Step-by-Step 5

Lesson 2.5, Question 11

Look at the order of operations at the top of page 90.

Step 1   Robert, Brenna, and Christian got different answers for this problem:

$(-40) - 2[(-8) \div 2]$

Here is their work.

Robert	**Brenna**	**Christian**
$(-40) - 2[(-8) \div 2]$	$(-40) - 2[(-8) \div 2]$	$(-40) - 2[(-8) \div 2]$
$= (-40) - 2(-4)$	$= (-40) - 2(-4)$	$= (-40) - 2(-4)$
$= (-40) - (-8)$	$= (-42)(-4)$	$= (-40) - 8$
$= -32$	$= 168$	$= -48$

Step 2   Analyse the work in *Step 1*. Fill in the blanks.

_____ has the correct answer.

_____ got the wrong answer because _____

_____

_____

_____ got the wrong answer because _____

_____