

End of Module 1 Assessment (Lessons 1 – 20)

There will be **10 questions** on this assessment. Be able to solve each of the problem-types below. This assessment covers all of Module 1 material. Using prior study guides is also a recommended way to prepare for this assessment.

Item 1: Know how to write **STANDARD FORM / FACTORS OF TEN MULTIPLICATION / EXPONENTIAL FORM.**

Standard Form

10,000
1,000,000
100

Factors of 10 Multiplication

$10 \times 10 \times 10 \times 10$
 $10 \times 10 \times 10 \times 10 \times 10 \times 10$
 10×10

Exponential Form

10^4
 10^6
 10^2

Item 2: Multiply 3-digit by 2-digit

You should be comfortable using any method to multiply multi-digit numbers. Below are three methods.

$345 \times 44 = \underline{\hspace{2cm}}$

$345 \times 44 = \underline{\hspace{2cm}}$

$345 \times 44 = \underline{\hspace{2cm}}$

Standard Algorithm

345

x 44

1380

+ 13800

15,180

Remember, to shift once
(place one zero)

Partial Product Method

345

x 44

12,000

1,200

1,600

160

200

20

+

15,180

300×40

300×4

40×40

40×4

5×40

5×4

Area Model Method

	300	40	5
40	12,000	1,600	200
4	1,200	160	20

Add up all the boxes

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Item 3: Use mental math to divide by a power of 10 and be able to explain your answer.

$700,000 \div 10^2$	$7,000 \div 10^2$	$700 \div 10^2$
7,000	70	7

Since we are dividing, I know the quotient is going to be smaller. I also know that 10^2 is 10×10 or 100. That means I have to shift the quotient two places to the right.

Item 4: Know how to use **parentheses** to change the value of an equation.

$$\begin{aligned}
 &70 \times 30 + 5 + 42 \\
 &2,100 + 5 + 42 \\
 &2,147
 \end{aligned}$$

Parentheses must be done first in solving an equation. Notice here how we get different answers because parentheses are placed around the $30 + 5$.

$$\begin{aligned}
 &70 \times (30 + 5) + 42 \\
 &70 \times 35 + 42 \\
 &2,450 + 42 \\
 &2,492
 \end{aligned}$$

Item 5: Divide by 2-digits
You should be comfortable using either the standard algorithm or the partial products method to divide.

REMEMBER to estimate first.

$$4165 \div 17$$

Partial Product Method

	5	
	10	
	10	
	10	
	10	
	100	
	100	
17	$\overline{) 4,165}$	$\begin{array}{r} 595 \\ - 170 \\ \hline 2,465 \\ - 170 \\ \hline 1,700 \\ - 170 \\ \hline 765 \\ - 170 \\ \hline 595 \end{array}$

Standard Algorithm

	X 245
17	$\overline{) 4165}$
	$\begin{array}{r} 245 \\ - 34 \downarrow \\ \hline 76 \\ - 68 \downarrow \\ \hline 85 \\ - 85 \\ \hline 0 \end{array}$

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Item 6: Know how to convert metric measurements **KHDUDCM**

1 liter = 1,000 milliliters
1 liter = 100 centiliters
1 kiloliter = 1,000 liters

1 meter = 1,000 millimeters
1 meter = 100 centimeters
1 kilometer = 1,000 meters

1 gram = 1,000 milligrams
1 gram = 100 centigrams
1 kilogram = 1,000 grams

12 meters = 12,000 millimeters
120 kilograms = 120,000 grams
12,000 centiliters = 120,000 milliliters

Item 7: Be able to solve a real-world word problem.

Janice has 26 jars of marbles. Each jar holds 15 marbles. Each day she gives a new friend in class 15 marbles. How many days will it take for Janice to give away all her marbles?

First find out how many marbles Janice has in all. $26 \times 15 = 390$ marbles.
Next, divide the total amount of marbles by the number she gives away each day. $390 \div 15 = 26$.
It will take her 26 days to give away all of her marbles.

Item 8: Be able to compare expressions using $<$, $>$, $=$.

78×395 _____ $(70 + 8) \times (300 + 95)$
 78×395 = 78×395

Work smart – did I actually have to do this last step and multiply? NO, I can clearly see they are the same on both sides!

$24 \times (215 + 85)$ _____ $(8 + 24) \times (215 + 85)$
 24×300 < 32×300

Work smart – did I actually have to do this last step and multiply? NO, I can clearly see that one side would be larger because 300 is on both sides.

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Item 9: Write your own real-world word problem to match an equation.

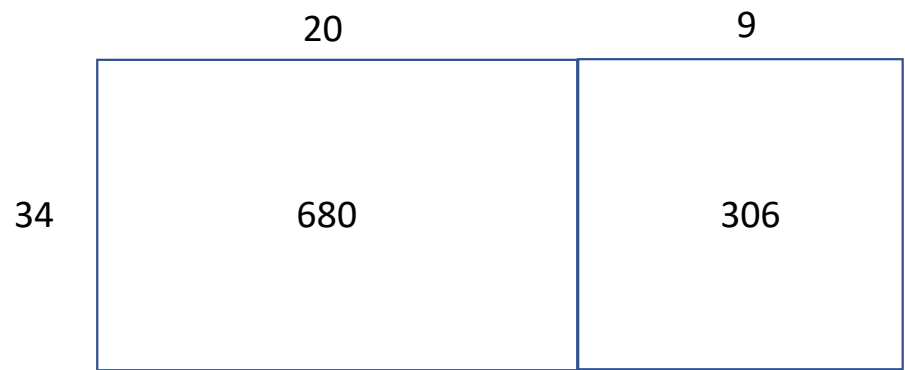
$3,255 \div 35$

This is NOT a creative writing class. Try to write a real-world problem for the equation. Look at the operation. If you are multiplying the number gets larger. If you are dividing the number gets smaller in equal groups.

For example, Mr. Briganti has 3,255 Legos. He buys containers to put them in for the Lego Club. Each container holds 35 Legos. How many containers will he need to hold all of the Legos? Will there be any remaining Legos not in a container?

$3255 \div 35 = 93$

Item 10: Be able to explain an area model for division using partial quotients .



Area Models can be used to multiply. They can also be used to divide.

This area model shows: **$986 \div 34 = 29$**

34 is the **divisor**
 $680 + 306 = 986$ is the **dividend**
 $20 + 9 = 29$ is the **quotient**