Tier 2 Mathematics Intervention

Module: Multiplication & Division Relationships (MDR)

Form A Assessment

Name __________________________________________

Date __________________________________________

Teacher _______________________________________
1.) Makayla was skip counting by 3s. Circle the answer that shows the first 6 numbers Makayla skip counted.

   A  3, 13, 23, 33, 43, 53
   B  3, 6, 9, 12, 15, 18
   C  3, 4, 5, 6, 7, 8
   D  3, 5, 7, 9, 11, 13

2.) Circle the answer that shows 8 groups of 2.

   A  8 + 8 + 8 + 8 + 8 + 8 + 8 + 8
   B  16 + 16
   C  8 + 8 + 2 + 2
   D  2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

3.) Circle the answer of the correct equal group sentence for the equal groups model.

   A  7 groups of 3 equals 21.
   B  21 groups of 7 equals 3.
   C  3 groups of 7 equals 21.
   D  7 groups of 7 equals 21.

4.) Circle the answer that shows the correct equal groups model for 4 groups of 8 equals 32.

   A  
   B  
   C  
   D  
5.) Circle the answer of the multiplication equation for the repeated addition equation $8 + 8 + 8 = 24$.
   
   A  $8 \times 3 = 24$  
   B  $8 \times 8 \times 8 = 24$  
   C  $8 \times 24 = 3$  
   D  $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 24$

6.) Kyle separated 16 apples into baskets and told the teacher they were in equal groups. Circle the answer that shows the apples in equal groups.

   A
   B
   C
   D

7.) Solve the multiplication problem using the number line. Circle the answer of the problem.

   \[ \times 1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 \]

   A  $3 \times 9 = 9$  
   B  $9 \times 3 = 27$  
   C  $9 \times 9 = 27$  
   D  $3 \times 3 = 27$
8.) Karen was asked to model $2 \times 7$ on the number line. Circle the answer that shows the correct model.

A

B

C

D

9.) Circle the multiplication equation for the bar model.

\[5\]

A $5 \times 5 = 25$
B $6 + 5 = 11$
C $6 \times 5 = 35$
D $6 \times 5 = 30$
10.) Jonah ran 3 miles every day for 1 week. After 1 week, how many miles did Jonah run in all? (Remember: 1 week = 7 days) Circle the letter of the bar model that represents this problem.

A 7 × 3

B 3 × 3

C 7 × 7

D 3 × 1

11.) The box of crayons has 3 rows with 6 crayons in each row. Circle the letter of the array and multiplication equation that represents the crayon box.

A 3 × 2 = 6

B 3 × 6 = 18

C 6 × 1 = 6

D 3 × 3 = 9

12.) Circle the repeated addition equation for the array.

A 3 + 7 = 21

B 7 + 7 + 7 = 21

C 17 + 7 = 21

D 7 + 7 + 7 = 9
13.) Circle the multiplication equation that represents the shaded area.

A  $24 \times 1 = 24$
B  $4 \times 6 = 24$
C  $12 \times 2 = 24$
D  $3 \times 8 = 24$

14.) Aaron is drawing a model of the kitchen floor. He shaded 8 columns of 3 tiles. What is the area of the kitchen floor?

A  11 square units
B  16 square units
C  24 square units
D  22 square units
15.) What is the shaded area of the area model?

![Area Model Diagram]

A 11 square units  
B 36 square units  
C 10 square units  
D 18 square units

16.) Which multiplication equation can be used to find the area of the dog house?

![Dog House Diagram]

A 5 × 5  
B 5 × 6  
C 5 × 7  
D 6 × 4
Solve using the multiplication table. Circle the correct answer.

17.) $\frac{4}{7}$

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>24</td>
<td>27</td>
<td>30</td>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td>44</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>24</td>
<td>30</td>
<td>36</td>
<td>42</td>
<td>48</td>
<td>54</td>
<td>60</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>49</td>
<td>56</td>
<td>63</td>
<td>70</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>32</td>
<td>40</td>
<td>48</td>
<td>56</td>
<td>64</td>
<td>72</td>
<td>80</td>
<td>88</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>18</td>
<td>27</td>
<td>36</td>
<td>45</td>
<td>54</td>
<td>63</td>
<td>72</td>
<td>81</td>
<td>90</td>
<td>99</td>
<td>108</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>110</td>
<td>120</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>22</td>
<td>33</td>
<td>44</td>
<td>55</td>
<td>66</td>
<td>77</td>
<td>88</td>
<td>99</td>
<td>110</td>
<td>121</td>
<td>132</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>24</td>
<td>36</td>
<td>48</td>
<td>60</td>
<td>72</td>
<td>84</td>
<td>96</td>
<td>108</td>
<td>120</td>
<td>132</td>
<td>144</td>
</tr>
</tbody>
</table>

A 11       B 32       C 21       D 28

18.) $8 \times 8 = \underline{64}$

A 16       B 56       C 64       D 72
19.) 5 students equally shared 14 pencils. How many pencils did each student get? Circle the correct answer.
   A  14 shared equally with 5 friends equals 2 per friend with 4 leftover.
   B  5 shared equally with 14 friends equals 2 per friend with 4 leftover.
   C  14 shared equally with 5 friends equals 1 per friend with 9 leftover.
   D  5 shared equally with 14 friends equals 9 per friend with 0 leftover.

20.) 4 friends found 18 silver coins. Which way shows the friends sharing equally? Circle the correct answer.
   A  18 shared equally with 4 friends equals 3 per friend with 6 leftover.
   B  18 shared equally with 4 friends equals 4 per friend with 2 leftover.
   C  4 shared equally with 18 friends equals 4 per friend with 2 leftover.
   D  18 shared equally with 4 friends equals 5 per friend with 0 leftover.

Draw dots in the bar model to represent the counters. Circle the answer that completes the equation.

21.) 9 divided equally into 3 groups equals _______.

   A  12  B  27  C  3  D  9

Choose the most reasonable answer.

22.) Carlos has 11 stickers. He wants to give his 2 younger brothers the same amount. About how many stickers should his brothers each receive?
   A  22 stickers each  B  13 stickers each  C  9 stickers each  D  5 stickers each
23.) Division is related to repeated ________________.
   A multiplication
   B addition
   C division
   D subtraction

24.) When you divide the whole into more groups, what happens to the amount in each group? Circle the best answer.
   A The amount in each group is less.
   B The amount in each group is more.
   C The amount in each group doesn’t change.
   D The amount in each group only changes the whole.

25.) Circle the equation that matches the bar model.

   \[
   \begin{array}{ccccccc}
   \hline
   & & & & & & 24 \\
   \hline
   3 & 3 & 3 & 3 & 3 & 3 & 3 \\
   \hline
   \end{array}
   \]

   A 24 divided into groups of 8 equals 3 equal groups.
   B 3 divided into groups of 3 equals 24 equal groups.
   C 24 divided into groups of 3 equals 8 equal groups.
   D 8 divided into groups of 3 equals 24 equal groups.

Choose the correct bar model.

26.) 45 divided into groups of 9 equals 5 equal groups.

   A \[
   \begin{array}{ccc}
   45 \\
   15 & 15 & 15 \\
   \end{array}
   \]
   B \[
   \begin{array}{cccc}
   45 \\
   9 & 9 & 9 & 9 \\
   \end{array}
   \]
   C \[
   \begin{array}{cccc}
   45 \\
   9 & 9 & 9 & 9 \\
   \end{array}
   \]
   D \[
   \begin{array}{cccc}
   45 \\
   5 & 5 & 5 & 5 \\
   \end{array}
   \]
27.) Circle the correct number family triangle from the given number equation.

\[ 5 \times 7 = 35 \]

\[ 35 \div 5 = 7 \]

A

\[
\begin{array}{c}
7 \\
\times, \div \\
35 \\
5 \\
\end{array}
\]

B

\[
\begin{array}{c}
5 \\
\times, \div \\
35 \\
7 \\
\end{array}
\]

C

\[
\begin{array}{c}
35 \\
\times, \div \\
7 \\
5 \\
\end{array}
\]

D

\[
\begin{array}{c}
7 \\
\times, \div \\
5 \\
35 \\
\end{array}
\]

28.) Choose a multiplication equation that belongs to this number family.

4, 9, 36

A 4 \times 36 = 9
B 4 \times 9 = 36
C 9 \times 36 = 4
D 36 \times 9 = 4

29.) Which fact does not belong to the number family?

7, 8, 56

A 7 \times 8 = 56
B 7 \div 56 = 8
C 56 \div 8 = 7
D 8 \times 7 = 56

30.) Circle the example of the Zero Property of Multiplication.

A 1 \times 12 = 12
B 5 \times 5 = 25
C 7 \times 0 = 0
D 10 \times 6 = 60
31.) Anna has 11 ten-dollar bills. Circle the correct equation that shows how much money Anna has.
   A  $1 \times 11 = $11
   B  $11 + 10 = $21
   C  $11 \times 10 = $111
   D  $11 \times 10 = $110

32.) Which of the following makes the equation true?

   \[ 2 \times [\square] = 24 \]

   A  12
   B  11
   C  10
   D  13

33.) Mrs. King puts her class into teams. Each team has 4 students. There are 9 different teams. Circle the letter that correctly shows how many students are in Mrs. King’s class.

   A  \[
   \frac{4 \times 9}{10 \times 9} = \frac{90}{86} \]
   \[ - 4 \]
   \[ \frac{86}{10} \text{ students} \]
   B  \[
   \frac{4 \times 9}{4 \times 10} = \frac{40}{9} \]
   \[ - 9 \]
   \[ \frac{31}{36} \text{ students} \]
   C  \[
   \frac{4 + 9}{4 + 10} = \frac{14}{14} \]
   \[ - 4 \]
   \[ \frac{10}{36} \text{ students} \]
   D  \[
   \frac{4 \times 9}{4 \times 10} = \frac{40}{40} \]
   \[ - 4 \]
   \[ \frac{36}{36} \text{ students} \]

34.) Kaylee wrote that $9 \times 9 = 90$. What step did Kaylee forget to do in solving $9 \times 9$?

   A  None, that is the correct answer.
   B  She forgot to subtract the factor.
   C  She didn’t think of 9 as 10.
   D  She didn’t multiply 9 to 10.
35.) Circle the correct way to solve $3 \times 6$ using the Break Apart 6 Strategy.

\[
\begin{align*}
\text{A} & : (1 \times 3) + (5 \times 3) = 18 \\
\text{B} & : (3 \times 3) + (3 \times 5) = 24 \\
\text{C} & : (1 \times 5) + (3 \times 3) = 14 \\
\text{D} & : (6 \times 1) + (6 \times 5) = 36
\end{align*}
\]

36.) Marcus sold 6 pies at the fundraiser. Each pie costs $6. How much money did Marcus make?

A $18  
B $30  
C $12  
D $36

37.) Matthew has 4 friends and wants to give each friend 3 notebooks. Circle the letter that correctly shows how many notebooks Matthew needs in all?

\[
\begin{align*}
\text{A} & : 4 \times 3 = 16 = 4 \times 3 \\
\text{B} & : 4 \times 3 = 12 + 12 = 24 = 4 \times 3 \\
\text{C} & : 4 \times 3 = 4 + 12 = 16 = 4 \times 3 \\
\text{D} & : 4 \times 3 = 6 + 6 = 12 = 4 \times 3
\end{align*}
\]

38.) Circle the letter that shows how Courtney correctly solved $4 \times 8$.

A $4 \times 8 = 12$  
B $8 + 8 = 16$ so $4 \times 8 = 16$  
C $16 + 16 = 32$ so $4 \times 8 = 32$  
D $4 + 4 + 4 + 4 = 16$ so $4 \times 8 = 16$
39.) Sofia earns $12 a day for pet sitting. She worked a total of 7 days. Circle the letter that correctly shows how much money Sophia earned?

A  
12 × 7
(2 × 12) + (5 × 12)
24 + 60
$84

B  
12 × 7
(6 × 7) + (6 × 7)
36 + 36
$72

C  
12 × 7
(2 × 5) + (12 × 12)
10 + 144
$154

D  
12 × 7
(1 × 12) + (7 × 12)
12 + 84
$96

40.) Joshua sold 7 of his baseball cards for $4 each. How much money did Joshua get for his baseball cards?

A  $35
B  $28
C  $11
D  $21