MULTIPLICATION REVIEW

Single-digit, by single-digit, no carry-over

stWith single digit multiplication, by another single digit, place the answer directly underneath the numbers that you are multiplying

| 2 | 2 | 2 |
|------------|------------------------|---|
| <u>x 2</u> | <u>x 3</u> | <u>x 4</u> |
| 3 | 3 | 1 |
| <u>x 2</u> | <u>x 3</u> | <u>x 1</u> |
| 1 | 1 | 1 |
| <u>x 3</u> | <u>x 4</u> | <u>x 5</u> |
| 1 | 1 | 1 |
| <u>x 7</u> | <u>x 8</u> | <u>x 6</u> |
| 2 | 3 | 4 |
| <u>x 0</u> | <u>x 0</u> | <u>x 0</u> |
| 6 | 7 | 8 |
| <u>x 0</u> | <u>x 0</u> | <u>x 0</u> |
| | 3 x2 1 x3 1 x7 2 x0 | x 2 x 3 3 x 3 x 2 x 3 1 1 x 3 x 4 1 1 x 7 x 8 2 3 x 0 x 0 6 7 |

Single-digit, by single-digit, with carry-over

*With single digit multiplication, by another single digit, place the answer directly underneath the numbers that you are multiplying. Line up the numbers so that the numbers on the right are all in a straight column. Look at the example below:

| 5 x 5 2 5 | 5 <u>x 4</u> | 5 <u>x 3</u> | 5 <u>x 7</u> |
|-----------------|-----------------|-----------------|-----------------|
| 3 | 3 | 3 | 3 |
| <u>x 4</u> | <u>x 7</u> | <u>x 6</u> | <u>x 5</u> |
| 4 | 4 | 4 | 4 |
| <u>x 3</u> | <u>x 5</u> | <u>x 8</u> | <u>x 6</u> |
| 6 | 6 | 6 | 6 |
| <u>x 6</u> | <u>x 5</u> | <u>x 3</u> | <u>x 7</u> |
| 7 | 7 | 7 | 7 |
| <u>x 2</u> | <u>x 5</u> | <u>x 4</u> | <u>x 8</u> |
| 8 | 8 | 8 | 8 |
| <u>x 2</u> | <u>x 4</u> | <u>x 9</u> | <u>x 5</u> |
| 1 | | | |

| 5 | 5 | 5 | 5 |
|------------|------------|------------|------------|
| <u>x 2</u> | <u>x 5</u> | <u>x 6</u> | <u>x 7</u> |
| 9 | 9 | 9 | 9 |
| <u>x 8</u> | <u>x 6</u> | <u>x 4</u> | <u>x 2</u> |
| 9 | 9 | 9 | 9 |
| <u>x 7</u> | <u>x 5</u> | <u>x 3</u> | <u>x 9</u> |
| 6 | 6 | 6 | 6 |
| <u>x 2</u> | <u>x 4</u> | <u>x 8</u> | <u>x 9</u> |
| 7 | 7 | 7 | 7 |
| <u>x 3</u> | <u>x 6</u> | <u>x 9</u> | <u>x 2</u> |
| 8 | 8 | 8 | 8 |
| <u>x 5</u> | <u>x 7</u> | <u>x 8</u> | <u>x 6</u> |
| 8 | 8 | 8 | 8 |
| <u>x 4</u> | <u>x 3</u> | <u>x 2</u> | <u>x 9</u> |
| | | | |

Double-digit, by single-digit, with no carry-over

stLook at the explanation below, then calculate the rest of the questions:

| | 2 |) | 1 | 4 | |
|-----|-----|---|----------|---|---|
| X | | | <u>3</u> | • | , |
| A 4 | 11. | | | | |

Step one: Multiply the bottom right number by the top right number.

21₅

Write your answer in directly beneath the numbers that you just multiplied

21 x 3 3

Step two: multiply the bottom right number, by the next number on the left, on the top x 3 63

Write your answer on the answer line directly under the top number that you just used to multiply. Now you are finished

| | 21 | |
|---|----|--|
| v | 2 | |

21 x 4 21 <u>x 1</u> 21 x 0

22 x 2 22 x 3 22 <u>x 4</u>

<u>x 3</u>

11

<u>x 3</u>

13

<u>x 3</u>

14

<u>x 2</u>

14

<u>x 1</u>

13

<u>x 2</u>

12

<u>x 2</u>

11

<u>x 2</u>

| 20 | 20 | 20 | 20 |
|------------|------------|------------|------------|
| <u>x 3</u> | <u>x 4</u> | <u>x 1</u> | <u>x 1</u> |
| 23 | 23 | 22 | 23 |
| <u>x 1</u> | <u>x 2</u> | <u>x 3</u> | <u>x 0</u> |
| 32 | 32 | 32 | 32 |
| <u>x 3</u> | <u>x 2</u> | <u>x 1</u> | <u>x 0</u> |
| 33 | 33 | 33 | 33 |
| <u>x 1</u> | <u>x 2</u> | <u>x 3</u> | <u>x 0</u> |
| 44 | 44 | 44 | 43 |
| <u>x 2</u> | <u>x 1</u> | <u>x 0</u> | <u>x 2</u> |
| 43 | 43 | 34 | 34 |
| <u>x 1</u> | <u>x 0</u> | <u>x 2</u> | <u>x 1</u> |
| 34 | 12 | 12 | 12 |
| <u>x 0</u> | <u>x 1</u> | <u>x 3</u> | <u>x 4</u> |
| | | | |

Double-digit, by single-digit, with I example of carry-over

*Look at the explanation below, then calculate the rest of the questions:

| *Look at the explanation below, then calculate the rest of the questions: | | | | |
|---|--|---------------------|---|--|
| | 14 x 6 x 6 6 x 4 = 24 Step two: Write down the answer on your page so that you can see what it is | 2 14 x 6 4 | Step three: The number on the right, goes on the right, directly beneath the numbers that you are multiplying. The number on the left, goes on the left - directly on top of the NEXT number to the left. | |
| 2 rig 14 w | tep four: multiply the bottom ght number, by the next umber on the top. Write your ork so that you can see your umbers | 14 | Step five: add the number that was carried over, to the number that you just calculated by multiplying | |
| 14 x 6 | Step six: add that new number, into your answer line. Now you are finished. The answer line. | 24 <u>x 4</u> | 25 <u>x 2</u> | |
| 26 <u>x 2</u> | 26 <u>x 3</u> | 27 <u>x 2</u> | 28 <u>x 2</u> | |

| 29 | 28 | 27 | 26 |
|------------|------------|------------|------------|
| <u>x 2</u> | <u>x 3</u> | <u>x 3</u> | <u>x 3</u> |
| 25 | 24 | 23 | 24 |
| <u>x 3</u> | <u>x 3</u> | <u>x 4</u> | <u>x 4</u> |
| 25 | 26 | 27 | 28 |
| <u>x 4</u> | <u>x 4</u> | <u>x 4</u> | <u>x 4</u> |
| 29 | 36 | 37 | 38 |
| <u>x 4</u> | <u>x 2</u> | <u>x 2</u> | <u>x 2</u> |
| 39 | 35 | 45 | 46 |
| <u>x 2</u> | <u>x 2</u> | <u>x 2</u> | <u>x 2</u> |

| 45 | 45 | 45 | 45 |
|------------|------------|------------|------------|
| <u>x 3</u> | <u>x 4</u> | <u>x 5</u> | <u>x 6</u> |
| 54 | 54 | 54 | 54 |
| <u>x 2</u> | <u>x 3</u> | <u>x 4</u> | <u>x 5</u> |
| 45 | 45 | 45 | 65 |
| <u>x 7</u> | <u>x 8</u> | <u>x 9</u> | <u>x 6</u> |
| 65 | 65 | 65 | 65 |
| <u>x 7</u> | <u>x 8</u> | <u>x 9</u> | <u>x 4</u> |
| 66 | 66 | 66 | 66 |
| <u>x 3</u> | <u>x 5</u> | <u>x 4</u> | <u>x 6</u> |
| | | | |

| 77 | 77 | 77 | 77 |
|------------|------------|------------|------------|
| <u>x 7</u> | <u>x 8</u> | <u>x 9</u> | <u>x 4</u> |
| 78 | 78 | 78 | 78 |
| <u>x 3</u> | <u>x 5</u> | <u>x 4</u> | <u>x 6</u> |
| 82 | 83 | 84 | 85 |
| <u>x 7</u> | <u>x 8</u> | <u>x 9</u> | <u>x 4</u> |
| 86 | 87 | 88 | 89 |
| <u>x 3</u> | <u>x 5</u> | <u>x 4</u> | <u>x 6</u> |
| 90 | 91 | 92 | 93 |
| <u>x 7</u> | <u>x 8</u> | <u>x 9</u> | <u>x 4</u> |
| | | | |

Double-digit, by single-digit, with 2 examples of carry-over

stLook at the explanation below, then calculate the rest of the questions:

56 x 4

Step one: Multiply the bottom right number, by the number directly on top 56 x 4

 $6 \times 4 = 24$

Step two: Write down the answer on your page so that you can see what it is

 $\begin{array}{c}
2 \\
56 \\
x 4 \\
4 \\
6 \times 4 = 24
\end{array}$

number to the left.

Step three: The number on the right, goes on the right, directly beneath the numbers that you are multiplying. The number on the left, goes on the left - directly on top of the NEXT

Step four: multiply the bottom right number, by the next number on the top. Write your work so that you can see your numbers

56 x 4

 $4 \times 5 = 20$ +2 22

Step five: add the number that was carried over, to the number that you just calculated by multiplying

 $4 \times 5 = 20$

 $4 \times 5 = 20$ +2

Step six: add that new number, into your answer line. Make sure that each number is lined up nicely in its own column.

Now you are finished. The answer is on the answer line. 45 x 4



| 55 | 55 |
|------------|------------|
| <u>x 6</u> | <u>x 7</u> |
| 55 | 55 |
| <u>x 8</u> | <u>x 9</u> |
| 56 | 56 |
| <u>x 4</u> | <u>x 5</u> |

| 75 <u>x 5</u> |
|------------------|
| 75 <u>x 7</u> |
| 75 <u>x 9</u> |
| |

| 88 | 88 |
|------------|------------|
| <u>x 9</u> | <u>x 8</u> |
| 88 | 88 |
| <u>x 7</u> | <u>x 6</u> |
| 88 | 88 |
| <u>x 5</u> | <u>x 4</u> |

| Double-digit, by double-digit, no | carry-over | |
|---|---|--|
| *Look at the explanation below, then calculate the rest of the questions: | | |
| Multiply the bottom right number, by the number directly on top. Multiply the x 22 do x 22 po you to you will be a x 22 do you will be a x 22 do you will be a x 22 do x 2 do x 2 do x 2 do x 2 do x 3 do x 4 do x | Step three: multiply the bottom right number, by the next number on the left, on the top. Write down your answer on the next numbers 2 x 2 = 4 2 x 2 = 4 Step three: multiply the bottom right number, by the next number on the left, on the top. Write down your answer on the page, so that you can see your numbers. | |
| Step four: write the answer in the next column, on the answer line 21 | Step five: cross off the first number on the bottom that you used to multiply. You are now finished with that number. Under your answer line, you will now have a SECOND answer line. In the column on the right, write in a O. This is because every time you move from one column in the place value to another, you add a zero. | |
| Step six: go to the next number on the left, in the bottom number. Use that number to multiply the number on the right, on the top. Write your work on your paper so that you can see your numbers. | Step seven: move that number to the answer line $ \begin{array}{c} x & 22 \\ \hline & 42 \\ \hline & 20 \\ 2 & x & 1 = 2 \end{array} $ | |
| Step eight: now multiply the bottom number, by the next number to the left on the top. Write your work on your paper so that you can see your numbers. 2 x 2 = 4 | Step nine: put that number on the answer line, in the next column to the left. $ \begin{array}{c} $ | |
| 21 Step ten: add the two answer lines toget x 22 42 + 420 462 | ther. The third answer line is the final answer line | |

| 11 | 12 |
|-------------|-------------|
| x 11 | x 11 |
| 12 | 12 |
| <u>x 21</u> | <u>x 12</u> |
| 21 | 20 |
| <u>x 21</u> | x 11 |

| 20 | 11 |
|-------------|-------------|
| <u>x 20</u> | x 12 |
| 11 | 22 |
| <u>x 22</u> | <u>x 11</u> |
| 22 | 22 |
| <u>x 22</u> | <u>x 10</u> |

Double-digit, by double-digit, with carry-over st Look at the explanation below, then calculate the rest of the questions: Step one: multiply the bottom Step two: the number on the 34 right number, by the top right right, goes on the bottom right. The number on the left, goes up top, on the left Write your numbers out, so that $5 \times 4 = 20$ you can see them better $5 \times 4 = 20$ Step three: multiply the bottom right Step four: After you multiply, you 34 number, by the next number on the need to add in any numbers that are left on the top. hanging around on top of the number x 55 in the top row. Write your numbers out, so that you $3 \times 5 = 15$ can see them better $3 \times 5 = 15$ Step five: the number on the Step six: if there is nothing to add that right, goes on the answer line, number on the top to, then bring it all on the right. The number on the the way down to the answer line. left, goes up top, on the left. $3 \times 5 = 15$ Step seven: you are now finished with the bottom Step eight: multiply the bottom left number, by the right number, so you can scratch it off. After you scratch it off, add a O underneath. We do this number on the top right. because when we move from one column in place Write out your numbers so value to the next, we add a O. $5 \times 4 = 20$ that you can see them better Also, erase or scratch off any numbers that you had to add above your question. You don't need them anymore, and if you keep them there, then they may distract or confuse you. Step nine: write in your numbers. Step ten: multiply the bottom left The number on the right number, by the top left number. goes on the right. The number on the left, goes Write out your numbers so that you can see them better. up top on the left. $5 \times 3 = 15$ $5 \times 4 =$ Step eleven: bring down the Step twelve: add your two answer number that was carried over, and lines together, to get a third answer add it to your answer. Write the line. right hand number on the right, 1700 and the left hand number on the This third answer line is your final 5x3 = 15top left. If there are no other answer. numbers to add it to, you can 1870 bring it down to the answer line.

| 45 | 45 |
|-------------|-------------|
| x 34 | x 43 |
| 45 | 45 |
| <u>x 78</u> | <u>x 87</u> |
| 88 | 77 |
| <u>x 77</u> | x 88 |

| 44 | 55 |
|------|------|
| x 55 | x 66 |
| 66 | 77 |
| x 77 | x 99 |
| 99 | 99 |
| x 22 | x 33 |

| 99 | 99 |
|-------------|-------------|
| <u>x 44</u> | <u>x 55</u> |
| 99 | 99 |
| <u>x 66</u> | <u>x 77</u> |
| 99 | 99 |
| <u>x 88</u> | <u>x 99</u> |

| -digit multiplication: |
|------------------------|
| 222 <u>x 333</u> |
| 444 <u>x 555</u> |
| 567 <u>x 789</u> |
| |