

Name _____

Multiplying Whole Numbers

37

★ $(8 \times 9) + 3 = 75$ tens. Regroup 75 tens as 7 hundreds and 5 tens.
 $8 \times 4 = 32$ ones. Regroup 32 ones as 3 tens and 2 ones.

$$\begin{array}{r} 73 \\ 6,294 \\ \times \quad 8 \\ \hline 50,352 \end{array}$$

Multiply.

$$\begin{array}{r} 1 \\ 637 \\ \times \quad 5 \\ \hline 3185 \end{array}$$

$$\begin{array}{r} 2 \\ 5863 \\ \times \quad 9 \\ \hline 7167 \end{array}$$

$$\begin{array}{r} 1 \\ 7392 \\ \times \quad 8 \\ \hline 3136 \end{array}$$

$$\begin{array}{r} 1 \\ 4573 \\ \times \quad 6 \\ \hline 3438 \end{array}$$

$$\begin{array}{r} 21 \\ 1284 \\ \times \quad 3 \\ \hline 3852 \end{array}$$

$$\begin{array}{r} 12 \\ 56,723 \\ \times \quad 8 \\ \hline 53,784 \end{array}$$

$$\begin{array}{r} 5,103 \\ \times \quad 9 \\ \hline 45,927 \end{array}$$

$$\begin{array}{r} 2 \\ 6,130 \\ \times \quad 7 \\ \hline 42,910 \end{array}$$

$$\begin{array}{r} 2 \\ 3,214 \\ \times \quad 5 \\ \hline 16,070 \end{array}$$

$$\begin{array}{r} 2 \\ 2,016 \\ \times \quad 4 \\ \hline 8,064 \end{array}$$

$$\begin{array}{r} 9,107 \\ \times \quad 3 \\ \hline 27,321 \end{array}$$

$$\begin{array}{r} 54 \\ 5,1987 \\ \times \quad 6 \\ \hline 11,922 \end{array}$$

$$\begin{array}{r} 12 \\ 37,624 \\ \times \quad 5 \\ \hline 38,120 \end{array}$$

$$\begin{array}{r} 19,843 \\ \times \quad 2 \\ \hline 19,686 \end{array}$$

$$\begin{array}{r} 4 \\ 4,270 \\ \times \quad 6 \\ \hline 25,620 \end{array}$$

$$\begin{array}{r} 5,030 \\ \times \quad 9 \\ \hline 45,270 \end{array}$$

$$\begin{array}{r} 11 \\ 4,123 \\ \times \quad 6 \\ \hline 24,738 \end{array}$$

$$\begin{array}{r} 66 \\ 2,367 \\ \times \quad 9 \\ \hline 31,303 \end{array}$$

$$\begin{array}{r} 9 \\ 7,109 \\ \times \quad 5 \\ \hline 35,545 \end{array}$$

$$\begin{array}{r} 22 \\ 9,178 \\ \times \quad 3 \\ \hline 27,534 \end{array}$$

$$\begin{array}{r} 1,062 \\ \times \quad 7 \\ \hline 7,434 \end{array}$$

$$\begin{array}{r} 17 \\ 7,019 \\ \times \quad 8 \\ \hline 56,152 \end{array}$$

$$\begin{array}{r} 8 \\ 8,791 \\ \times \quad 4 \\ \hline 35,164 \end{array}$$

$$\begin{array}{r} 3,105 \\ \times \quad 5 \\ \hline 15,525 \end{array}$$

Name _____

Multiplying Whole Numbers

38

★
$$\begin{array}{r} 5,329 \\ \times 43 \\ \hline 15,987 \\ + 213,160 \\ \hline 229,147 \end{array}$$

First, multiply by the 3 in the ones place.

Then, multiply by the 4 in the tens place.

Then, add the partial products to find the answer.

Multiply.

①
$$\begin{array}{r} 6,763 \\ \times 21 \\ \hline 142,023 \end{array}$$

$$\begin{array}{r} 1,356 \\ \times 17 \\ \hline 23,052 \end{array}$$

$$\begin{array}{r} 6,922 \\ \times 27 \\ \hline 186,894 \end{array}$$

$$\begin{array}{r} 7,805 \\ \times 13 \\ \hline 101,465 \end{array}$$

②
$$\begin{array}{r} 1,040 \\ \times 34 \\ \hline 35,360 \end{array}$$

$$\begin{array}{r} 5,500 \\ \times 20 \\ \hline 110,000 \end{array}$$

$$\begin{array}{r} 9,574 \\ \times 66 \\ \hline 631,884 \end{array}$$

$$\begin{array}{r} 5,568 \\ \times 87 \\ \hline 484,416 \end{array}$$

③
$$\begin{array}{r} 9,806 \\ \times 90 \\ \hline 882,540 \end{array}$$

$$\begin{array}{r} 6,624 \\ \times 53 \\ \hline 351,072 \end{array}$$

$$\begin{array}{r} 4,147 \\ \times 98 \\ \hline 406,406 \end{array}$$

$$\begin{array}{r} 1,603 \\ \times 75 \\ \hline 120,225 \end{array}$$

④
$$\begin{array}{r} 1,274 \\ \times 49 \\ \hline 62,426 \end{array}$$

$$\begin{array}{r} 4,202 \\ \times 60 \\ \hline 252,120 \end{array}$$

$$\begin{array}{r} 8,326 \\ \times 78 \\ \hline 649,428 \end{array}$$

$$\begin{array}{r} 36 \\ 1,480 \\ \times 80 \\ \hline 118,400 \end{array}$$

Name _____

Multiplying Whole Numbers

39

Multiply.

①

$$\begin{array}{r} 201 \\ \times 8 \\ \hline 1,608 \end{array}$$

$$\begin{array}{r} 7,973 \\ \times 5 \\ \hline 39,865 \end{array}$$

$$\begin{array}{r} 1,873 \\ \times 13 \\ \hline 24,349 \end{array}$$

$$\begin{array}{r} 15,176 \\ \times 10 \\ \hline 151,760 \end{array}$$

②

$$\begin{array}{r} 60,810 \\ \times 53 \\ \hline 3,222,930 \end{array}$$

$$\begin{array}{r} 263,000 \\ \times 15 \\ \hline 3,945,000 \end{array}$$

$$\begin{array}{r} 521,432 \\ \times 11 \\ \hline 5,735,752 \end{array}$$

$$\begin{array}{r} 47,345 \\ \times 98 \\ \hline 4,639,810 \end{array}$$

③

$$\begin{array}{r} 98,000 \\ \times 32 \\ \hline 3,136,000 \end{array}$$

$$\begin{array}{r} 344,020 \\ \times 61 \\ \hline 20,985,220 \end{array}$$

$$\begin{array}{r} 941,561 \\ \times 38 \\ \hline 35,779,318 \end{array}$$

$$\begin{array}{r} 68,405 \\ \times 88 \\ \hline 6,019,640 \end{array}$$

④

$$\begin{array}{r} 675,455 \\ \times 46 \\ \hline 31,070,930 \end{array}$$

$$\begin{array}{r} 177,000 \\ \times 19 \\ \hline 3,363,000 \end{array}$$

$$\begin{array}{r} 252,210 \\ \times 76 \\ \hline 19,167,960 \end{array}$$

$$\begin{array}{r} 188,889 \\ \times 46 \\ \hline 8,688,894 \end{array}$$

Name _____

Multiplication up to 7 Digits by 4 Digits

29

Find the product.

$$\textcircled{1} \quad 548,167 \times 981 =$$

$$537,751,827$$

$$2,459,399 \times 3,210 =$$

$$7,894,670,790$$

$$4,109 \times 390,958 =$$

$$1,606,446,422$$

$$\textcircled{2} \quad 147,378 \times 129 =$$

$$19,011,762$$

$$1,458,390 \times 4,129 =$$

$$6,021,692,310$$

$$5,328 \times 299,099 =$$

$$1,593,599,472$$

$$\textcircled{3} \quad 946,761 \times 238 =$$

$$225,329,118$$

$$9,458,391 \times 5,038 =$$

$$47,651,373,858$$

$$6,587 \times 191,280 =$$

$$1,259,761,360$$

$$\textcircled{4} \quad 845,457 \times 347 =$$

$$293,373,579$$

$$8,458,392 \times 6,947 =$$

$$58,760,449,224$$

$$7,666 \times 493,371 =$$

$$3,782,182,086$$

$$\textcircled{5} \quad 744,671 \times 456 =$$

$$339,569,976$$

$$7,458,393 \times 7,856 =$$

$$58,593,135,408$$

$$8,945 \times 595,462 =$$

$$5,326,407,590$$

$$\textcircled{6} \quad 643,982 \times 565 =$$

$$363,849,830$$

$$6,458,394 \times 8,765 =$$

$$56,607,823,410$$

$$9,234 \times 697,153 =$$

$$6,437,510,802$$

- $\textcircled{7}$ A resort is offering a special six-night package for \$1,995 per person. If 28,947 people take advantage of the offer, how much will they spend?

$$\frac{\$1,995}{\text{person}} \times 28,947 \text{ people} = \$57,749,265$$

- $\textcircled{8}$ Astronauts must consume about 3,021 calories of carbohydrates, proteins, and fats a day when they are in space. How many calories will four astronauts consume on a 120-day mission?

$$3,021 \frac{\text{calories}}{\text{day}} \times 120 \text{ days} \times 4 = 1,450,080 \text{ calories}$$

Name _____

Multiplying Integers

41

- ✱ A positive number multiplied by a negative number always results in a negative number.

$$+30 \times -6 = -180$$

A negative number multiplied by a negative number always results in a positive number.

$$-8 \times -3 = +24$$

A positive number multiplied by a positive number always results in a positive number.

$$+12 \times +8 = +96$$

Multiply.

$$\textcircled{1} \quad +4 \times +12 = 48 \quad +12 \times -4 = -48 \quad -6 \times +8 = -48 \quad -3 \times -8 = 24$$

$$\textcircled{2} \quad +12 \times -3 = -36 \quad -11 \times +3 = -33 \quad -10 \times -15 = 150 \quad +16 \times -2 = -32$$

$$\textcircled{3} \quad -11 \times -11 = 121 \quad -20 \times +5 = -100 \quad +18 \times -9 = -162 \quad +17 \times -1 = -17$$

$$\textcircled{4} \quad -65 \times +2 = -130 \quad +6 \times +14 = 84 \quad +22 \times -4 = -88 \quad -15 \times -5 = 75$$

$$\textcircled{5} \quad -100 \times -4 = 400 \quad +39 \times -4 = -156 \quad -12 \times -6 = 72 \quad +120 \times -7 = -840$$

$$\textcircled{6} \quad -160 \times +30 = -4800 \quad -180 \times -20 = 3600 \quad +250 \times +5 = 1250 \quad +425 \times -4 = -1700$$

Name _____

Multiplication of Integers

31

★ If the signs of both factors are the same, the product will be positive.

$$+4,572 \times +788 = +3,602,736$$

$$-93 \times -15 = +1,395$$

If the signs of the factors are different, the product will be negative.

$$+700 \times -40 = -2,800$$

$$-922 \times +43 = -39,646$$

Find the product.

① $-99 \times -1,476 =$
146,124

$+1,678,345 \times +173 =$
290,353,685

$+82,781 \times -6,366 =$
-526,983,846

② $-381 \times -153 =$
58,293

$+778,345 \times -3,362 =$
-2,616,795,890

$-473,893 \times -7,317 =$
3,467,475,081

③ $+77 \times -1,672 =$
-128,744

$+3,878,345 \times +556 =$
2,156,359,820

$+64,805 \times -5,328 =$
-345,281,040

④ $-262 \times -741 =$
194,142

$+978,345 \times +4,930 =$
4,823,240,850

$-573 \times +72 =$
-41,256

⑤ $-673 \times -2,837 =$
1,909,301

$-773 \times +99 =$
-76,527

$-273 \times +451 =$
-123,123

⑥ $-143 \times -949 =$
135,707

$-278,345 \times +129 =$
-35,906,505

$-37,832 \times -2,341 =$
88,564,712

- ⑦ Each week, 65,397 pounds of newspaper that would otherwise go to the town dump is removed for recycling during trash collection. If this continues for 16 weeks, how much newspaper is taken out for recycling?

$$65,397 \frac{\text{lbs}}{\text{week}} \times 16 \text{ weeks} = 1,046,352 \text{ lbs}$$

Name _____

Multiplying Decimals

40

- ★ Multiplying numbers with decimals is the same as multiplying whole numbers. Just make sure to line up the decimal points. Add 0s to make numbers the same length.

$$4.343 \times 0.67 = ?$$

$$\begin{array}{r} 4.343 \\ \times 0.670 \\ \hline 304010 \\ +2605800 \\ \hline 2909810 \end{array}$$

Add up the number of places after decimal points in the factors. Place the decimal point in the product that many places from the right. Zeroes at the end of the product can be dropped.

$$4.343 \times 0.67 = 2.909810, \text{ or } 2.90981$$

Multiply.

$$\begin{array}{r} ① \quad 1.37 \\ \times 0.71 \\ \hline 0.9727 \end{array}$$

$$\begin{array}{r} 0.913 \\ \times 3.4 \\ \hline 3.1042 \end{array}$$

$$\begin{array}{r} 73.1 \\ \times 0.6 \\ \hline 43.86 \end{array}$$

$$\begin{array}{r} 33.18 \\ \times 0.77 \\ \hline 25.5486 \end{array}$$

$$\begin{array}{r} ② \quad 2.55 \\ \times 1.99 \\ \hline 5.0745 \end{array}$$

$$\begin{array}{r} 18 \\ \times 1.8 \\ \hline 32.4 \end{array}$$

$$\begin{array}{r} 0.03 \\ \times 0.09 \\ \hline 0.0027 \end{array}$$

$$\begin{array}{r} 46.2 \\ \times 37.1 \\ \hline 1,714.02 \end{array}$$

$$\begin{array}{r} ③ \quad 0.65 \\ \times 5.3 \\ \hline 3.445 \end{array}$$

$$\begin{array}{r} 0.061 \\ \times 0.02 \\ \hline 0.00122 \end{array}$$

$$\begin{array}{r} 12.33 \\ \times 0.5 \\ \hline 6.165 \end{array}$$

$$\begin{array}{r} 0.403 \\ \times 10 \\ \hline 4.03 \end{array}$$

$$\begin{array}{r} ④ \quad 0.065 \\ \times 0.7 \\ \hline 0.0455 \end{array}$$

$$\begin{array}{r} 52.2 \\ \times 0.1 \\ \hline 5.22 \end{array}$$

$$\begin{array}{r} 0.1515 \\ \times 1.05 \\ \hline 0.159075 \end{array}$$

$$\begin{array}{r} 1.25 \\ \times 0.75 \\ \hline 0.9375 \end{array}$$

Name _____

Multiplication of Decimals

30

- ★ The first step when multiplying numbers with decimals is to multiply the factors as you would with whole numbers.

$$\begin{array}{r}
 543.7 \\
 \times 25.9 \\
 \hline
 48933 \\
 271850 \\
 + 1087400 \\
 \hline
 14081.83
 \end{array}$$

In each of the two factors (543.7 and 25.9), there is a decimal place to the right of the decimal. Since there is a total of 2 decimal places in the factors, the decimal point is moved two places to the left in the product.

Find the product.

① $89.3 \times 2.75 =$
245.575

$1.746 \times 5.27 =$
9.20142

$451.25 \times 4.33 =$
1,953.9125

② $99.8 \times 3.276 =$
326.9448

$5.89 \times 0.33 =$
1.9437

$362.326 \times 3.24 =$
1,173.9362

③ $69.6 \times 4.77 =$
331.992

$6.778 \times 3.424 =$
23.207872

$573.27 \times 2.93 =$
1,679.6811

④ $49.4 \times 5.178 =$
255.7932

$7.62 \times 0.264 =$
2.01168

$784.228 \times 1.74 =$
1,364.5567

⑤ $29.2 \times 6.79 =$
198.268

$9.754 \times 1.58 =$
15.41132

$995.29 \times 9.53 =$
9,485.1137

⑥ $19.3 \times 7.071 =$
136.4703

$8.46 \times 0.605 =$
5.1183

$406.152 \times 8.33 =$
3,383.2461

- ⑦ An average of 3,476.92 people moved to a city each year for 10 years. If this rate of growth continues, how many people will move to the city in 15 years?

$3,476.92 \frac{\text{people}}{\text{year}} \times 15 \text{ years} = 52,153.8 \text{ people}$