

Examples C to H and The Basics 3 in Arithmetic 2

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Click this to start.

Examples C

C.0. $12 \times (-1)$

Click the problem above to see the solution.

C.0. $12 \times (-1)$

Multiplying a nonzero number by -1 , we just change the sign of the number.

So we get $12 \times (-1) = -12$. And for the same reason, we can get $-95 \times (-1) = 95$.

So multiplying a positive number by -1 , we get the negative number with the same magnitude, and also, multiplying a negative number by -1 , we get the positive number with the same magnitude, too.

Note that 0 is neither positive nor negative, and thus, has no sign.

And multiplying a number by 0, or multiplying 0 by a number, we get 0.

C.1. $-1 \times (-35)$

Click the problem above to see the solution.

C.1. $-1 \times (-35)$

Multiplying -1 by a nonzero number, we change the sign of the number, too.

And we have $\mathbf{A \times B = B \times A}$. So we get $(-1) \times (-35) = (-35) \times (-1) = 35$.

And for the same reason, we can get $-1 \times 17 = -17$.

And of course, dividing a nonzero number by -1 , we change the sign of the number, too.

So for instance, we get $3/(-1) = -3$, and $(-5)/(-1) = 5$.

It is usually the case however, dividing -1 by a nonzero number, we not only change the sign of the number, but change the magnitude of it, too.

For instance, we get $-1 \div 3 = -1/3$, and $-1 \div 3 \neq -3$. What then is the exception?

We have two cases. In one, the nonzero number is 1, and in the other, it is -1 .

So we get $-1 \div \mathbf{1} = -1/1 = \mathbf{-1}$, and we get $-1 \div \mathbf{(-1)} = -1/(-1) = \mathbf{1}$.

C.2. $3 \times (-4)$

Click the problem above to see the solution.

C.2. $3 \times (-4)$

We have $-A = -1 \times A$, and we have $A \times B = B \times A$.

So we get $3 \times (-4) = 3 \times (-1) \times 4 = -1 \times 3 \times 4 = -1 \times 12 = -12$.

And we can put it the way below, too:

Adding together three of (-4) s, we get -12 , and can put it this way: $3 \times (-4)$.

So we get $3 \times (-4) = -12$.

And we know multiplying a nonzero by -1 , we change the sign.

So in multiplication, if we have an odd number of negatives, the product is negative.

And if we have an even number of negatives, the product is positive.

So in general, taking the product of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the product, and then, add the negative sign to the product if odd is the number of the negatives.

So for instance, doing $-2 \times (-3) \times (-4)$, we do this first: $2 \times 3 \times 4$, and get 24 , and then, add the negative sign to 24 , that is, we get -24 , because in the entire set of the multiplications, the number of negatives is 3 , which is odd.

That is to say that we get $-2 \times (-3) \times (-4) = -(2 \times 3 \times 4) = -24$.

And we get $-2 \times 3 \times (-4) = 2 \times 3 \times 4 = 24$.

C.3. -5×7

C.3. -5×7

We have $5 \times 7 = 35$, so we get $-5 \times 7 = -35$.

And we have a rule where $A \times B = B \times A$.

So in fact, we have $-5 \times 7 = 7 \times (-5)$, which means the sum of 7 of (-5) s, which means that we get $-5 + (-5) + (-5) + (-5) + (-5) + (-5) + (-5) = -35$.

C.4. -12×2

C.4. -12×2

We have $12 \times 2 = 24$, so we get $-12 \times 2 = -24$, since it has one negative, that is, the number of the negatives is odd.

C.5. $21 \times (-3)$

C.5. $21 \times (-3)$

We have $21 \times 3 = 63$, so we get $21 \times (-3) = -63$, which equals -21×3 , also.

C.6. $17 \times (-5)$

C.6. $17 \times (-5)$

We can have $17 \times 5 = (10 + 7) \times 5 = 10 \times 5 + 7 \times 5 = 50 + 35 = 85$

So we get $17 \times (-5) = -17 \times 5 = -85$

C.7. $12 \times (-12)$

C.7. $12 \times (-12)$

We can have $12 \times 12 = 12 \times (10 + 2) = 12 \times 10 + 12 \times 2 = 120 + 24 = 144$.

So we get $12 \times (-12) = -12 \times 12 = -144$

C.8. -15×15

C.8. -15 x 15

$$15 \times 15 = 15 \times (10 + 5) = 15 \times 10 + 15 \times 5 = 150 + (10 + 5) \times 5 = 150 + 50 + 25 = 225$$

So we get $-15 \times 15 = 15 \times (-15) = -225$

C.9. -25 x 25

C.9. -25 x 25

$$25 \times 25 = (20 + 5) \times 25 = 20 \times 25 + 5 \times 25 = 500 + 5 \times (20 + 5) = 500 + 100 + 25 = 625$$

So we get $-25 \times 25 = 25 \times (-25) = -625$

C.A. -35 x 35

C.A. -35 x 35

We can have $35 \times 35 = (30 + 5) \times 35 = 30 \times 35 + 5 \times 35$
 $= \mathbf{30 \times (30 + 5)} + \mathbf{\underline{5 \times (30 + 5)}} = \mathbf{900 + 150 + \underline{150 + 25}} = 900 + 300 + 25 = 1225$

So we get $-35 \times 35 = 35 \times (-35) = -1225$

C.B. 45 x (-45)

C.B. 45 x (-45)

We can have $45 \times 45 = 45 \times (40 + 5) = 45 \times (2 \times 20 + 5)$
 $= 90 \times 20 + 45 \times 5 = 1800 + (40 + 5) \times 5 = 1800 + 200 + 25 = 2025$

So we get $45 \times (-45) = -45 \times 45 = -2025$

C.C. 55 x (-55)

C.C. 55 x (-55)

$$55 \times 55 = 55 \times (50 + 5) = 55 \times 50 + 55 \times 5$$

$$55 \times 5 = (50 + 5) \times 5 = 250 + 25 = 275$$

$$55 \times 50 = 55 \times 5 \times 10 = 275 \times 10 = 2750$$

$$55 \times 50 + 55 \times 5 = \underline{2750} + \underline{275} = 2000 + \underline{900} + \underline{120} + 5 = 2000 + 1020 + 5 = 3025$$

$$\text{So we get } 55 \times (-55) = -55 \times 55 = -3025$$

C.D. 65 x (-65)

C.D. 65 x (-65)

$$\begin{aligned} 65 \times 65 &= 65 \times (60 + 5) = 65 \times 60 + 65 \times 5 = (60 + 5) \times 60 + (60 + 5) \times 5 \\ &= 60 \times 60 + 5 \times 60 + 60 \times 5 + 5 \times 5 = 60 \times 60 + 2 \times 5 \times 60 + 5 \times 5 = 3600 + 600 + 25 \\ &= 3000 + 1200 + 25 = 4225 \end{aligned}$$

So we get $65 \times (-65) = -65 \times 65 = -4225$.

C.E. 75 x (-75)

C.E. 75 x (-75)

$$\begin{aligned} 75 \times 75 &= (70 + 5) \times (70 + 5) = 70 \times 70 + 2 \times 5 \times 70 + 5 \times 5 = 4900 + 700 + 25 \\ &= 4000 + 1600 + 25 = 5625 \end{aligned}$$

So we get $75 \times (-75) = -75 \times 75 = -5625$

C.F. -85 x 85

C.F. -85 x 85

$$\begin{aligned} 85 \times 85 &= (80 + 5) \times (80 + 5) = 80 \times 80 + 2 \times 5 \times 80 + 5 \times 5 = 6400 + 800 + 25 \\ &= 6000 + 1200 + 25 = 7225 \end{aligned}$$

So we get $-85 \times 85 = 85 \times (-85) = -10425$

C.G. 95 x (-95)

C.G. 95 x (-95)

$$\begin{aligned} 95 \times 95 &= 90 \times 90 + 2 \times 5 \times 90 + 5 \times 5 = 8100 + 900 + 25 \\ &= 8000 + 1000 + 25 = 9025 \end{aligned}$$

So we get $95 \times (-95) = -95 \times 95 = -9025$

And again, the way calculations done in the examples above is just one of many ways.
So you don't have to do calculations the way above.

Moving on to the next examples, click this: **Examples D.**

Examples D

Taking the product of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the product, and then, put the negative sign if odd is the number of the negatives.

So for instance, we get $-2 \times (-3) \times (-4) = -24$, and we get $-2 \times 3 \times (-4) = 24$.

D.0. $-12 \times (-12)$

Click the problem above to see the solution.

D.0. -12 x (-12)

{It has two negatives, that is, an even number of negatives. So the product is positive.}

So we get $-12 \times (-12) = 12 \times 12 = (10 + 2) \times 12 = 10 \times 12 + 2 \times 12 = 120 + 24 = 144$.

D.1. -11 x (-11)

D.1. $-11 \times (-11)$

{It has two negatives, that is, an even number of negatives. So the product is positive.}

So we get $-11 \times (-11) = 11 \times 11 = (10 + 1) \times 11 = 10 \times 11 + 1 \times 11 = 110 + 11 = 121$

D.2. $-101 \times (-11)$

D.2. -101 x (-11)

$$= 101 \times 11$$

$$= 101 \times (10 + 1)$$

$$= 101 \times 10 + 101 \times 1$$

$$= 1010 + 101$$

$$= 1000 + 100 + 10 + 1$$

$$= 1111$$

D.3. -11 x (-101)

D.3. -11 x (-101)

$$= 11 \times 101$$

$$= 101 \times 11 = (100 + 1) \times 11 = 1100 + 11$$

$$= 1111$$

D.4. -1001 x (-25)

D.4. -1001 x (-25)

$$= 1001 \times 25 = (1000 + 1) \times 25 = 25000 + 25 = 25025$$

D.5. -1001 x (-125)

D.5. $-1001 \times (-125)$

$$= 1001 \times 125$$

$$= (1000 + 1) \times 125$$

$$= 125000 + 125$$

$$= 125125$$

D.6. $-10001 \times (-37)$

D.6. -10001 x (-37)

$$= 10001 \times 37$$

$$= (10000 + 1) \times 37$$

$$= 370000 + 37$$

$$= 370037$$

D.7. -10001 x (-937)

D.7. $-10001 \times (-937)$

$$= 10001 \times 937$$

$$= (10000 + 1) \times 937$$

$$= 9370000 + 937$$

$$= 9370937$$

D.8. $-10001 \times (-5937)$

D.8. -10001 x (-5937)

$$= 10001 \times 5937 = 59370000 + 5937 = 59375937$$

D.9. -100001 x (-12345)

D.9. -100001 x (-12345)

$$= 100001 \times 12345 = 1234500000 + 12345 = 1234512345$$

D.A. -100001 x (-1234)

D.A. -100001 x (-1234)

$$= 100001 \times 1234 = 123400000 + 1234$$

$$= 123401234$$

D.B. -100001 x (-123)

D.B. $-100001 \times (-123)$

$$= 100001 \times 123 = 12300123$$

D.C. $-2002 \times (-123)$

D.C. -2002 x (-123)

$$= 2002 \times 123 = 2 \times 1001 \times 123 = 2 \times 123123 = 246246$$

D.D. -202 x (-12)

D.D. $-202 \times (-12)$

$$= 202 \times 12 = 2 \times 101 \times 12 = 2 \times 1212 = 2424$$

D.E. $-20002 \times (-123)$

D.E. -20002 x (-123)

$$= 20002 \times 123 = 2 \times 10001 \times 123 = 2 \times 1230123 = 2460246$$

D.F. -3003 x (-111)

D.F. -3003 x (-111)

$$= 3003 \times 111 = 3 \times 1001 \times 111 = 3 \times 111111 = 333333$$

D.G. -3003 x (-222)

D.G. -3003 x (-222)

$$= 3003 \times 222$$

$$= 3 \times 1001 \times 111 \times 2$$

$$= 3 \times 111111 \times 2$$

$$= 333333 \times 2$$

$$= 666666$$

D.H. -3003 x (-123)

D.H. -3003 x (-123)

$$= 3003 \times 123 = 3 \times 1001 \times 123 = 3 \times 123123$$

$$= 369369$$

D.I. -3003 x (-125)

D.I. -3003 x (-125)

$$= 3003 \times 125$$

$$= 3 \times 1001 \times 125$$

$$= 3 \times 125125$$

$$= 3 \times (125 \times 1000 + 125)$$

$$= 3 \times \underline{125} \times 1000 + 3 \times 125$$

$$= (\underline{300} + 60 + \underline{15}) \times 1000 + 300 + 60 + 15$$

$$= 375 \times 1000 + 375$$

$$= 375375$$

D.J. -303 x (-125)

D.J. -303 x (-125)

$$= 3 \times 101 \times 125$$

$$= 3 \times (100 + 1) \times 125$$

$$= 3 \times (12500 + 125)$$

$$= 3 \times \underline{125} \times 100 + 3 \times 125$$

$$= (\underline{300} + 60 + \underline{15}) \times 100 + 300 + 60 + 15$$

$$= 375 \times 100 + 375$$

$$= (375 + 3) \times 100 + 75$$

$$= 37800 + 75$$

$$= 37875$$

D.K. -303 x (-111)

D.K. -303 x (-111)

$$= 3 \times 101 \times 111$$

$$= 3 \times (100 + 1) \times 111$$

$$= 3 \times (11100 + 111)$$

$$= 3 \times 11211$$

$$= 33633$$

Moving on to the next examples, click this: **Examples E.**

Examples E

Taking the product of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the product, and then, put the negative sign if odd is the number of the negatives.

So for instance, we get $-2 \times (-3) \times (-4) \times (-1) = 24$, and we get $-2 \times 3 \times (-4) \times (-1) = -24$.

E.0. $3 \times (-1) \times (-1)$

Click the problem above to see the solution.

E.0. $3 \times (-1) \times (-1)$

Multiplying a number by -1, we change the sign of the number.

And the problem has two negatives, so the product is positive.

So we get $3 \times (-1) \times (-1) = 3 \times 1 \times 1 = 3 \times 1 = 3$

E.1. $4 \times (-3) \times (-5) \times 2 \times (-7)$

E.1. $4 \times (-3) \times (-5) \times 2 \times (-7)$

We can see that there are three negatives in the multiplication. Therefore, the product is negative. So we can just begin with $4 \times 3 \times 5 \times 2 \times 7$. Then, we get

$$4 \times 3 \times 5 \times 2 \times 7 = 12 \times 10 \times 7 = 12 \times 70 = (10 + 2) \times 70 = 700 + 140 = 840.$$

So the product is -840 .

And of course, we can put it the way below, too:

$$\begin{aligned} 4 \times (-3) \times (-5) \times 2 \times (-7) &= -(\mathbf{4} \times \mathbf{3} \times \underline{5} \times \underline{2} \times 7) = -(\mathbf{12} \times \underline{10} \times 7) \\ &= -(12 \times 70) = -\{(\mathbf{10} + \underline{2}) \times 70\} = -(\mathbf{700} + \underline{140}) = -840 \end{aligned}$$

E.2. $-5 \times (-6) \times (-1) \times (-1) \times (-1) \times 3$

E.2. $-5 \times (-6) \times (-1) \times (-1) \times (-1) \times 3$

There are 5 negative numbers, so the product is negative.

And getting the magnitude of the product, we get

$$5 \times 6 \times 1 \times 1 \times 1 \times 3$$

$$= 5 \times 6 \times 3$$

$$= 30 \times 3$$

$$= 90$$

So the product is -90 .

E.3. $2 \times (-2) \times (2) \times (-2)$

E.3. $2 \times (-2) \times (2) \times (-2)$

It has two negatives, so the product is positive.

So we can just take $2 \times 2 \times 2 \times 2 = 4 \times 4 = 16$

E.4. $3 \times (-3) \times (-3) \times (-3)$

E.4. $3 \times (-3) \times (-3) \times (-3)$

It has three negatives, so the product is negative.

So taking first, the magnitude of the product, we get $3 \times 3 \times 3 \times 3 = 9 \times 9 = 81$.

Therefore, the product is -81 .

E.5. $4 \times (-4) \times (-2) \times (-1) \times (-1)$

E.5. $4 \times (-4) \times (-2) \times (-1) \times (-1)$

$$= 4 \times 4 \times 2 = 4 \times 8 = 32$$

E.6. $(-1) \times (-1) \times (-2) \times (-1) \times (-1)$

E.6. $(-1) \times (-1) \times (-2) \times (-1) \times (-1)$

$= -2$

E.7. $(-7) \times (-21) \times (-12) \times 0$

E.7. $(-7) \times (-21) \times (-12) \times 0$

$= 0$

E.8. $(-1) \times (-2) \times (-3) \times (-4)$

E.8. $(-1) \times (-2) \times (-3) \times (-4)$

$$= 1 \times 2 \times 3 \times 4 = 2 \times 3 \times 4 = 6 \times 4 = 24$$

E.9. $(-1) \times (-2) \times (-3) \times (-4) \times (-1)$

E.9. $(-1) \times (-2) \times (-3) \times (-4) \times (-1)$

$$= -2 \times 3 \times 4$$

$$= -6 \times 4$$

$$= -24$$

E.A. $(-10) \times 10 \times (-10) \times 10 \times (-10) \times (-1)$

E.A. $(-10) \times 10 \times (-10) \times 10 \times (-10) \times (-1)$

{The product is positive, since there are 4 of the negatives.}

{There are 5 of 10s getting multiplied together.}

$$= 100000$$

E.B. $10 \times 10 \times 10 \times 10 \times (-1) \times (-10) \times 10$

E.B. $10 \times 10 \times 10 \times 10 \times (-1) \times (-10) \times 10$

{It is positive since there are 2 of the negatives.}

{There are 6 of 10s getting multiplied together.}

$$= 1000000$$

E.C. $-10 \times (-10) \times (-10) \times (-10) \times (-10) \times (-1)$

E.C. $-10 \times (-10) \times (-10) \times (-10) \times (-10) \times (-1)$

{The product is positive because of the six negatives.}

$= 100000$ {We can see that there are 5 of 10s in the operations above.}

E.D. $-10 \times (-10) \times (-10) \times (-10) \times (-10) \times (-1) \times (-5)$

E.D. $-10 \times (-10) \times (-10) \times (-10) \times (-10) \times (-1) \times (-5) = -500000$

E.E. $10 \times (-10) \times (-10) \times 10 \times (-11) \times (-1) \times (-5)$

E.E. $10 \times (-10) \times (-10) \times 10 \times (-11) \times (-1) \times (-5) = -550000$

E.F. $11 \times (-101) \times 2 \times (-100001) \times (-1) \times (-3)$

E.F. $11 \times (-101) \times 2 \times (-100001) \times (-1) \times (-3)$

{It is positive because of the four negatives.}

$$= 11 \times 101 \times 2 \times 100001 \times 3$$

$$= 11 \times 101 \times 100001 \times 2 \times 3$$

$$= 11 \times 101 \times 100001 \times 6$$

$$= 1111 \times 100001 \times 6$$

$$= 111101111 \times 6$$

$$= 666606666$$

Click here to see the section, **The Basics 3**.

3. The Basics 3

Doing arithmetic, we do operations called additions, subtractions, multiplications, and divisions. It can be said however, doing arithmetic, we do either of two operations, one is addition, and the other is multiplication. Why?

Subtracting a number, we can add the negative of the number.

For instance, we can have $2 - 5 = 2 + (-5) = 2 + (-2) + (-3) = 0 + (-3) = -3$.

And we can have $-7 - 9 = -7 + (-9) = -16$.

So we have $2 - 5 = 2 + (-5)$, and $-7 - 9 = -7 + (-9)$.

So in general, we have $A - B = A + (-B)$.

And we know that the negative of a negative is positive.

So for instance, we get $4 - (-2) = 4 + 2 = 6$, and $-9 - (-4) = -9 + 4 = -5$.

Thus in general, we have $A - (-B) = A + B$.

What then about divisions?

Dividing by a number, we can multiply by the reciprocal of the number.

For instance, dividing 6 by 3, we can multiply 6 by $1/3$, since $1/3$ is the reciprocal of 3. Then, we get 2, which is the quotient we get dividing 6 by 3. And we can take 2 as a product, too, because it is the product we get multiplying 6 by $1/3$.

And dividing 8 by -2, we can multiply 8 by $-1/2$, since $-1/2$ is the reciprocal of -2. Then, we get -4, which is the quotient we get dividing 8 by -2. And we can take -4 as a product, too, because it is the product we get multiplying 8 by $-1/2$.

For another instance, dividing $6/5$ by $2/5$, we can multiply $6/5$ by $5/2$, since $5/2$ is the reciprocal of $2/5$. Then, we get 3, which is the quotient we get dividing $6/5$ by $2/5$. And we can take 3 as a product, too, because it is the product we get multiplying $6/5$ by $5/2$.

And dividing $-9/5$ by $-3/5$, we can multiply $-9/5$ by $-5/3$, because $-5/3$ is the reciprocal of $-3/5$. Then, we get 3, which is the quotient we get dividing $-9/5$ by $-3/5$. And we can take 3 as a product, too, because it is the product we get multiplying $-9/5$ by $-5/3$.

What then is a reciprocal?

Dividing 1 by a number nonzero, we get the reciprocal of the number.

So for instance, $1/3$ is the reciprocal of 3, because dividing 1 by 3, we get $1/3$.

And $-1/5$ is the reciprocal of -5, because dividing 1 by -5, we get $-1/5$.

A zero has no reciprocal, because we have no division by 0.

And multiplying a number by its reciprocal, we get 1. And if we get 1 multiplying two numbers by each other, the two are said to be reciprocal of each other.

For instance, the reciprocal of $2/3$ is $3/2$, because we get $\frac{2}{3} \cdot \frac{3}{2} = \frac{6}{6} = 1$.

And the reciprocal of $-5/4$ is $-4/5$, and we get $-(5/4) \cdot -(4/5) = 20/20 = 1$.

And thus, if the product of two numbers is 1, the two are reciprocal of each other.

For instance, $7/5$ is the reciprocal of $5/7$, which is the reciprocal of $7/5$, too, because we get $(7/5) \cdot (5/7) = 1$. And $-4/3$ is the reciprocal of $-3/4$, which is the reciprocal of $-4/3$, also, because we get $-(4/3) \cdot -(3/4) = 1$.

So in general, if $AB = 1$, A is the reciprocal of B , and B is the reciprocal of A , too, and we say that A and B are reciprocal of each other.

And if A and B both are not zero, $\frac{A}{B}$ and $\frac{B}{A}$ are reciprocal of each other.

So $\frac{A}{B}$ is the reciprocal of $\frac{B}{A}$, which is the reciprocal of $\frac{A}{B}$, too.

Swapping thus, the numerator and the denominator, we get the reciprocal.
What then about the reciprocal of 5?

We know $5 = 5/1$, so taking the reciprocal of 5, we get $1/5$.
What then about the reciprocal of 1?

The reciprocal of 1 is 1, because $1 \times 1 = 1$, and if the product of two numbers is 1, the two are reciprocal of each other, that is, one is the reciprocal of the other, and vice versa.

And dividing by a number, we can multiply by the reciprocal of the number.

Dividing for instance, 6 by 3, we can multiply 6 by $1/3$, and get 2.

And dividing 1 by $1/4$, we can multiply 1 by 4, and get 4.
In fact, adding together four of $(1/4)$ s, we get 1, that is, multiplying 4 by $1/4$, we get 1.

Next, we know if in multiplication, the number of negatives is odd, the product is negative. And if the number of negatives is even, the product is positive.

The same is true for divisions, too.

So in division, if the number of negatives is odd, the quotient is negative.
And if the number of negatives is even, the quotient is positive.

It's because a division by a number is a multiplication by its reciprocal, and taking a reciprocal of a number, we don't change the sign of the number.

So for instance, we get $8 \div (-2) = -4$, that is, $8/(-2) = -4$. So we get $8/(-2) = -8/2$.

In fact, multiplying by the same number, the numerator and the denominator, we get the same fraction. So in the fraction $8/(-2)$, multiplying 8 and -2 both by -1 , we get $-8/2$.

And for another instance, $24 \div (-4) \div (-2) = 3$, that is, $24/(-4)/(-2) = 3$.
That's because $24/(-4) = -6$. So we get $24/(-4)/(-2) = -6/(-2) = 3$.

And we can put it the way below, too:

$$24/(-4)/(-2) = 24/8 = 3, \text{ because } 24/(-4)/(-2) = 24/\{(-4) \cdot (-2)\} = 24/8 = 3.$$

$$\text{That is to say that } \frac{\frac{24}{-4}}{-2} = \frac{24}{8} = 3, \text{ because } \frac{\frac{24}{-4}}{-2} = \frac{24}{\{(-4) \cdot (-2)\}} = \frac{24}{8} = 3.$$

And for another instance, we get $-24 \div (-4) \div (-2) = -3$, that is, $-24/(-4)/(-2) = -3$.

That's because $-24/(-4) = 6$. So we get $-24/(-4)/(-2) = 6/(-2) = -3$.

And we can put it the way below, too.

$$-24/(-4)/(-2) = -24/8 = -3, \text{ because } -24/(-4)/(-2) = -24/\{(-4) \cdot (-2)\} = -24/8 = -3.$$

$$\text{And for another instance, we get } \frac{-2}{3} \cdot \frac{5}{-7} \cdot \frac{-8}{9} \cdot \frac{-12}{11} \cdot \frac{8}{-3} = -\frac{2}{3} \cdot \frac{5}{7} \cdot \frac{8}{9} \cdot \frac{12}{11} \cdot \frac{8}{3}$$

That's because the entire operation has an odd number of negatives.

And for another instance, we can get

$$-37/(-7)/5/(-2) = -37/70, \text{ and } -37/(-7)/(-5)/(-2) = 37/70.$$

So in general, doing divisions of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the quotient, and then, add the negative sign to the quotient if odd is the number of all the negatives.

For instance, doing this: $-37/(-7)/5/(-2)$, do this: $-37/7/5/2$, because the number of negatives is 3, which is odd.

For another instance, doing this: $-37/(-7)/(-5)/(-2)$, just do this: $37/7/5/2$, because the number of negatives is 4, which is even.

Let's now go back to examples. So click this: **Examples F**.

Examples F

In division, if the number of negatives is odd, the quotient is negative.

And if the number of negatives is even, the quotient is positive. So for instance:

$$8 \div (-2) = -4, \text{ that is, } 8/(-2) = -4. \quad \text{So we get } 8/(-2) = -8/2.$$

$$24 \div (-4) \div (-2) = 3, \text{ that is, } 24/(-4)/(-2) = 3.$$

$$-24 \div (-4) \div (-2) = -3, \text{ that is, } -24/(-4)/(-2) = -3.$$

$$-37/(-7)/5/(-2) = -37/70, \text{ and } -37/(-7)/(-5)/(-2) = 37/70.$$

So in general, doing divisions of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the quotient, and then, add the negative sign to the quotient if odd is the number of all the negatives.

For instance, doing this: $-17/(-9)/5/(-2)$, do this: $-17/9/5/2$, because the number of negatives is 3, which is odd.

And doing this: $-28/(-5)/(-3)/(-2)$, just do this: $28/5/3/2$, because the number of negatives is 4, which is even.

F.0. $-6 / 3$

Click the problem above to see the solution.

F.0. $-6 \div 3 = -6 / 3 = \frac{-6}{3} = -\frac{6}{3} = -2$ {The number of negatives is odd in the division.}

And we can put it the way below, too.

$$-6 / 3 = \frac{-6}{3} = \frac{-1 \times 6}{3} = (-1) \times \frac{6}{3} = -1 \times 2 = -2.$$

F.1. $1 / (-1)$

F.1. 1 / (-1)

$$1 / (-1) = \frac{1}{-1} = -\frac{1}{1} = -1. \quad \{\text{The number of negatives is odd in the division.}\}$$

And we can put it this way, too: $1 / (-1) = \frac{1}{-1} = \frac{1 \cdot (-1)}{-1 \cdot (-1)} = \frac{-1}{1} = -1.$

{We can change the sign of a number if we multiply or divide the number by -1 .}

F.2. -7 / 7

F.2. $-7 / 7$

$$-7 / 7 = \frac{-7}{7} = -\frac{7}{7} = -1. \quad \{\text{The number of negatives is odd in the division.}\}$$

We can put it this way, too: $\frac{-7}{7} = \frac{-1 \times 7}{7} = -1 \times \frac{7}{7} = -1 \times 1 = -1$

F.3. $12 / (-3)$

F.3. 12 / (-3)

$$12 / (-3) = \frac{12}{-3} = -\frac{12}{3} = -4.$$

F.4. 121 / (-11)

F.4. 121 / (-11)

$$121 / (-11) = \frac{121}{-11} = -\frac{121}{11} = -\frac{11 \times 11}{11} = -11$$

F.5. 225 / (-25)

F.5. 225 / (-25)

$225 = 45 \times 5 = 9 \times 5 \times 5 = 9 \times 25$. Therefore, $225/(-25) = -9$.

$$225 / (-25) = \frac{225}{-25} = -\frac{225}{25} = -\frac{9 \times 25}{25} = -9$$

F.6. -625 / 25

F.6. -625 / 25

625 = 25 x 25, so -625/25 = -25

$$\text{-625 / 25} = \frac{-625}{25} = -\frac{625}{25} = -\frac{25 \times 25}{25} = -25$$

F.7. -1225 / 35

F.7. $-1225 / 35$

$$\begin{aligned} 1225 &= 1200 + 25 = 12 \times 100 + 25 = 12 \times 5 \times 20 + 25 = 12 \times 5 \times 5 \times 4 + 25 \\ &= 12 \times 4 \times 25 + 25 = 48 \times 25 + 25 = (48 + 1) \times 25 = 49 \times 25 \end{aligned}$$

{48 of 25s and 1 of 25s is 49 of 25s.}

$= 49 \times 5 \times 5 = 7 \times 7 \times 5 \times 5 = 7 \times 5 \times 7 \times 5$. And we have $35 = 7 \times 5$
Therefore, $1225 = 35 \times 35$, $1225/35 = 35$, and $-1225/35 = -35$.

And also, we can put 1225 the way below, too.

$$1225 = 49 \times 5 \times 5 = 7 \times 7 \times 5 \times 5 = 7 \times 5 \times 7 \times 5 = 35 \times 35.$$

Therefore, $1225 = 35 \times 35$, $1225/35 = 35$, and $-1225/35 = -35$.

Note however, you don't have to do calculations the way above.

There can be many ways to calculate.

F.8. $-2025 / 45$

F.8. -2025 / 45

$$\begin{aligned} 2025 &= 2000 + 25 = 5 \times 400 + 25 = 5 \times 5 \times 80 + 25 = 25 \times 80 + 25 = 25 \times (80 + 1) \\ &= 25 \times 81 = 5 \times 5 \times 9 \times 9 = 5 \times 9 \times 5 \times 9 = 45 \times 45. \end{aligned}$$

So we get $2025/45 = 45$, and thus, we get $-2025/45 = -45$.

F.9. 3025 / -55

F.9. 3025 / -55

$$\begin{aligned} 3025 &= 3000 + 25 = 5 \times 600 + 25 = 5 \times 6 \times 100 + 25 = 5 \times 6 \times 5 \times 20 + 25 \\ &= 5 \times 5 \times 6 \times 20 + 25 = 25 \times 120 + 25 = 25 \times (120 + 1) = 25 \times 121 \end{aligned}$$

$$121 = 11 \times 11$$

$$25 \times 121 = 25 \times 11 \times 11 = 5 \times 5 \times 11 \times 11 = 5 \times 11 \times 5 \times 11 = 55 \times 55$$

So we get $3025/55 = 55$, and thus, we get $3025/(-55) = -55$.

F.A. 9025 / -95

F.A. 9025 / -95

We have $9025 = 9000 + 25$

Meanwhile, $9000 = 90 \times 100 = 90 \times 5 \times 20 = 90 \times 5 \times 5 \times 4 = 25 \times 90 \times 4 = 25 \times 360$

So we get $9025 = 25 \times 360 + 25 = 25 \times (360 + 1) = 25 \times 361$

Next, we can get $95 = 90 + 5 = 9 \times 2 \times 5 + 5 = 18 \times 5 + 5 = (18 + 1) \times 5 = 19 \times 5$

And we have $361 = 19 \times 19$. So we get

$9025 = 25 \times 19 \times 19 = 5 \times 5 \times 19 \times 19 = 5 \times 19 \times 5 \times 19 = 95 \times 95$, since $95 = 5 \times 19$

So we get $9025/95 = 95$, and thus, $9025/(-95) = -95$.

Note again though, you don't have to do calculations the way above.

And the same is true, too, for all the other examples.

There can be many ways to calculate.

F.B. 5625 / -75

F.B. 5625 / -75

$$75 = 70 + 5 = 7 \times 2 \times 5 + 5 = 14 \times 5 + 5 = (14 + 1) \times 5 = 15 \times 5 = 3 \times 5 \times 5$$

$$5625 = 5000 + 600 + 25$$

$$5000 = 5 \times 1000 = 5 \times 5 \times 200 = \underline{25 \times 200}$$

$$600 = 6 \times 100 = 6 \times 25 \times 4 = \mathbf{25 \times 24}$$

$$\text{So } 5625 = \underline{25 \times 200} + \mathbf{25 \times 24} + 25 = 25 \times (200 + 24 + 1) = 25 \times 225$$

$$225 = 200 + 25$$

$$200 = 2 \times 100 = 2 \times 25 \times 4 = 25 \times 8$$

$$\text{So } 225 = 25 \times 8 + 25 = 25 \times (8 + 1) = 25 \times 9$$

$$5625 = 25 \times 225 = 25 \times 25 \times 9, \text{ and } 75 = 3 \times 5 \times 5 = 3 \times 25$$

$$5625 = 25 \times 25 \times 3 \times 3, 75 = 25 \times 3, \text{ and } 5625 = 75 \times 75$$

$$\text{So we get } 5625/75 = 75, \text{ and thus, } 5625/(-75) = -75.$$

F.C. 7225 / -85

F.C. 7225 / -85

$$7225 = 7000 + 225$$

$$7000 = 7 \times 1000 = 7 \times 5 \times 200 = 7 \times 5 \times 2 \times 100 = 7 \times 5 \times 2 \times 4 \times 25$$

$$225 = 200 + 25 = 2 \times 4 \times 25 + 25 = 8 \times 25 + 25 = 9 \times 25$$

$$\begin{aligned} 7225 &= 7 \times 5 \times 2 \times 4 \times 25 + 9 \times 25 = 7 \times 4 \times 2 \times 5 \times 25 + 9 \times 25 = 28 \times 10 \times 25 + 9 \times 25 \\ &= 280 \times 25 + 9 \times 25 = 289 \times 25 \end{aligned}$$

$$85 = 80 + 5, \text{ and } 80 = 8 \times 10 = 8 \times 2 \times 5 = 16 \times 5$$

$$\text{So } 85 = 16 \times 5 + 5 = 17 \times 5$$

$$\text{And we have } 289 = 17 \times 17$$

$$\text{So } 7225 = 289 \times 25 = 17 \times 17 \times 25 = 17 \times 17 \times 5 \times 5 = 17 \times 5 \times 17 \times 5 = 85 \times 85$$

Therefore, $7225/85 = 85$, and $7225/(-85) = -85$.

F.D. -4225 / 65

F.D. $-4225 / 65$

$$4225 = 4000 + 225$$

$$4000 = 4 \times 1000 = 4 \times 10 \times 100 = 4 \times 10 \times 4 \times 25 = 16 \times 10 \times 25 = 160 \times 25$$

$$225 = 200 + 25 = 2 \times 4 \times 25 + 25 = 8 \times 25 + 25 = 9 \times 25$$

$$4225 = 160 \times 25 + 9 \times 25 = (160 + 9) \times 25 = 169 \times 25$$

$$65 = 60 + 5 = 6 \times 2 \times 5 + 5 = 12 \times 5 + 5 = 13 \times 5, \text{ and } 169 = 13 \times 13$$

$$4225 = 169 \times 25 = 13 \times 13 \times 25 = 13 \times 13 \times 5 \times 5 = 13 \times 5 \times 13 \times 5 = 65 \times 65$$

So we get $4225/65 = 65$, and $-4225/65 = -65$

F.E. $123123 / -1001$

F.E. 123123 / -1001

$$123123 = 123000 + 123 = 123 \times 1000 + 123 = 123 \times (1000 + 1) = 123 \times 1001$$

So we get $123123/1001 = 123$, and $123123/(-1001) = -123$.

F.F. 1230123 / -10001

F.F. 1230123 / -10001

$$1230123 = 1230000 + 123 = 123 \times 10000 + 123 = 123 \times (10000 + 1) = 123 \times 10001$$

So we get $1230123/10001 = 123$, and $1230123/(-10001) = -123$

F.G. -12300123 / 100001

F.G. -12300123 / 100001

$$12300123 = 12300000 + 123 = 123 \times 100000 + 123 = 123(100000 + 1) = 123 \times 100001$$

So we get $12300123/100001 = 123$, and $-12300123/100001 = -123$

Moving on to the next examples, click this: **Examples G.**

Examples G

In division, if the number of negatives is odd, the quotient is negative.

And if the number of negatives is even, the quotient is positive. So for instance,

$$24 \div (-4) \div (-2) = 3, \text{ that is, } 24/(-4)/(-2) = 3.$$

$$-37/(-7)/5/(-2) = -37/70, \text{ and } -37/(-7)/(-5)/(-2) = 37/70.$$

In general thus, doing divisions of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the quotient, and then, add the negative sign to the quotient if odd is the number of all the negatives.

For instance, doing this: $-17/(-9)/5/(-2)$, do this: $-17/9/5/2$.

And doing this: $-28/(-5)/(-3)/(-2)$, just do this: $28/5/3/2$, because the number of negatives is 4, which is even.

$$\text{G.0. } -1 / (-1)$$

G.0. $-1 / (-1)$

{We can change the sign of a number if we multiply or divide the number by -1 .}

$= 1$

G.1. $-2 / (-2)$

G.1. $-2 / (-2)$

$$\frac{-2}{-2} = 1$$

And we can put it this way, too:

$$-2/(-2) = (-2)/(-1 \times 2) = (-2)/(-1)/2 = 2/2 = 1$$

{Of course, when we divide a number by the same number, the quotient is 1.
Keep in mind though, that there is no division by 0.}

G.2. $-44 / (-11)$

G.2. -44 / (-11)

44 = 4 x 11, and -44/(-11) = 44/11 = 4

$$-44 / (-11) = \frac{-44}{-11} = \frac{-1 \times 44}{-1 \times 11} = \frac{44}{11} = \frac{4 \times 11}{11} = \frac{4}{1} = 4$$

G.3. -3232 / (-101)

G.3. -3232 / (-101)

$$3232 = 3200 + 32 = 32 \times 100 + 32 = 32 \times (100 + 1) = 32 \times 101$$

$$\text{So } -3232/(-101) = 3232/101 = 32.$$

$$-3232 / (-101) = \frac{-1 \times 3232}{-1 \times 101} = \frac{3232}{101} = \frac{32 \times 101}{101} = \frac{32}{1} = 32$$

G.4. -32032 / (-1001)

G.4. -32032 / (-1001)

$$32032 = 32000 + 32 = 32 \times 1000 + 32 = 32 \times 1001$$

$$\text{So we get } -32032 / (-1001) = \frac{-32032}{-1001} = \frac{32032}{1001} = \frac{32 \times 1001}{1001} = \frac{32}{1} = 32.$$

And we can write it this way, too: $-32032/(-1001) = 32032/1001 = 32 \times 1001/1001 = 32$.

G.5. -321321 / (-1001)

G.5. $-321321 / (-1001)$

$$321321 = 321000 + 321 = 321 \times 1000 + 321 = 321 \times 1001$$

$$\text{So we get } -321321 / (-1001) = \frac{-1 \times 321321}{-1 \times 1001} = \frac{321321}{1001} = \frac{321 \times 1001}{1001} = \frac{321}{1} = 321.$$

It can be written this way, too: $-321321/(-1001) = 321321/1001 = 321 \cdot 1001/1001 = 321$.

G.6. $-121 / (-11)$

G.6. $-121 / (-11)$

$$121 = 100 + 20 + 1 = 100 + 10 + 10 + 1 = 10 \times 10 + 10 + 10 + 1$$

$$\text{And we have: } 10 \times 10 + 10 = 10 \times (10 + 1) = 10 \times 11$$

$$\text{So we get } 121 = 10 \times 11 + 10 + 1 = 10 \times 11 + 11 = (10 + 1) \times 11 = 11 \times 11$$

$$\text{So we get } -121 / (-11) = \frac{-121}{-11} = \frac{121}{11} = \frac{11 \times 11}{11} = \frac{11}{1} = 11.$$

$$\text{And of course, it can be put this way, too: } -121/(-11) = 121/11 = 11 \times 11/11 = 11.$$

Note however, you don't have to do calculations the way above.

G.7. $-12321 / (-111)$

G.7. -12321 / (-111)

$$12321 = 10000 + 2000 + 300 + 20 + 1$$

$$= 10000 + 1000 + 1000 + 100 + 100 + 100 + 10 + 10 + 1$$

$$= 10000 + 1000 + 100 + 1000 + 100 + 10 + 100 + 10 + 1$$

$$10000 + 1000 + 100 = 100 \times (100 + 10 + 1)$$

$$1000 + 100 + 10 = 10 \times (100 + 10 + 1)$$

$$12321 = 100 \times (100 + 10 + 1) + 10 \times (100 + 10 + 1) + 100 + 10 + 1$$

$$= 100 \times 111 + 10 \times 111 + 111$$

$$= 111 \times (100 + 10 + 1)$$

$$= 111 \times 111$$

$$\text{So we get } -12321 / (-111) = \frac{-12321}{-111} = \frac{12321}{111} = \frac{111 \times 111}{111} = \frac{111}{1} = 111.$$

$$\text{And we can write it this way, too: } -12321/(-111) = 12321/111 = 111 \times 111/111 = 111.$$

G.8. -24642 / (-222)

G.8. -24642 / (-222)

24642 = 2 x 12321. And 12321 = 111 x 111 {as shown in the 7 above}

$$24642 = 2 \times 111 \times 111 = 222 \times 111$$

$$\text{So we get } -24642 / (-222) = \frac{-24642}{-222} = \frac{24642}{222} = \frac{222 \times 111}{222} = \frac{111}{1} = 111.$$

And we can put it this way, too: $-24642/(-222) = 24642/222 = (222 \times 111)/222 = 111.$

G.9. -36963 / (-333)

G.9. -36963 / (-333)

$$36963 = 3 \times 12321 = 3 \times 111 \times 111 \quad \{\text{as shown in the 7 above}\}$$

$$\text{So } 36963 = 333 \times 111.$$

$$\text{Thus, we get } -36963 / (-333) = \frac{-36963}{-333} = \frac{36963}{333} = \frac{333 \times 111}{333} = \frac{111}{1} = 111.$$

$$\text{And we can put it this way, too: } -36963/(-333) = 36963/333 = (333 \times 111)/333 = 111.$$

G.A. -1234231 / (-1111)

G.A. -1234231 / (-1111)

$$1,234,321 = 1,000,000 + 200,000 + 30,000 + 4000 + 300 + 20 + 1$$

$$\begin{aligned} = & 1,000,000 + 100000 + 10000 + 1000 + \\ & 100000 + 10000 + 1000 + 100 + \\ & 10000 + 1000 + 100 + 10 + \\ & 1000 + 100 + 10 + 1 \end{aligned}$$

$$\begin{aligned} = & 1000 \times (1000 + 100 + 10 + 1) + \\ & 100 \times (1000 + 100 + 10 + 1) + \\ & 10 \times (1000 + 100 + 10 + 1) + \\ & 1000 + 100 + 10 + 1 \end{aligned}$$

$$\begin{aligned} = & 1000 \times 1111 + 100 \times 1111 + 10 \times 1111 + 1111 \\ = & 1111 \times (1000 + 100 + 10 + 1) \\ = & 1111 \times 1111 \end{aligned}$$

$$\text{So we get } -1234321 / (-1111) = \frac{-1234321}{-1111} = \frac{1234321}{1111} = \frac{1111 \times 1111}{1111} = \frac{1111}{1} = 1111.$$

And of course, we can put it this way, too:

$$-1234321/(-1111) = 1234321/1111 = (1111 \times 1111)/1111 = 1111.$$

G.B. -2468642 / (-2222)

G.B. -2468642 / (-2222)

$2468642 = 2 \times 1234321 = 2 \times 1111 \times 1111$ {as shown in the example A above}

So we get $2468642 = 2222 \times 1111$.

So we get $-2468642 / (-2222) = \frac{-2468642}{-2222} = \frac{2468642}{2222} = \frac{2222 \times 1111}{2222} = \frac{1111}{1} = 1111$.

And of course, we can put it this way, too:

$-2468642 / (-2222) = 2468642 / 2222 = (2222 \times 1111) / 2222 = 1111$.

G.C. -2468642 / (-1111)

G.C. -2468642 / (-1111)

2458642 = 2222 x 1111 {as shown in the example B above}

So we get -2468642/(-1111) = 2468642/1111 = 2222

G.D. -36963 / (-111)

G.D. -36963 / (-111)

$$36963 = 3 \times 12321 = 3 \times 111 \times 111 \quad \{\text{as shown in the example 7 above}\}$$

So we get $36963 = 333 \times 111$.

$$\text{So we get } -36963 / (-111) = \frac{-36963}{-111} = \frac{36963}{111} = \frac{333 \times 111}{111} = \frac{333}{1} = 333$$

And of course, we can put it this way, too:

$$-36963 / (-111) = 36963 / 111 = (333 \times 111) / 111 = 333.$$

Moving on to the next examples, click this: **Examples H.**

Examples H

In division, if the number of negatives is odd, the quotient is negative.

And if the number of negatives is even, the quotient is positive. So for instance,

$$24 \div (-4) \div (-2) = 3, \text{ that is, } 24/(-4)/(-2) = 3, \text{ and } -37/(-7)/5/(-2) = -37/70.$$

Thus, in general, doing divisions of numbers positive and negative mixed together, we can just take all the numbers as positive numbers, take the quotient, and then, add the negative sign to the quotient if odd is the number of all the negatives.

So for instance, doing this: $-17/(-9)/5/(-2)$, do this: $-17/9/5/2$.

And doing this: $-28/(-5)/(-3)/(-2)$, just do this: $28/5/3/2$.

$$\text{H.O. } -44 / (-11) / 4$$

H.0. $-44 / (-11) / 4$

$$-44 / (-11) / 4 = -44 \div (-11) \div 4.$$

In this case, we do $-44 \div (-11)$ first, and then, divide the result, that is, the quotient by 4.

And in general, doing a division as $A/B/C/D\dots$, we do division operation from the left to the right in such a sequential manner as described above.

So assuming $U = A/B$, $V = U/C$, and $W = V/D$, we get $W = A/B/C/D$.

In other words, getting W , that is, doing $A/B/C/D$, we do first A/B to get U , then do U/C to get V , and then do V/D to get W . And we can put W the way below, too.

$$W = A/(BCD) = \frac{A}{BCD}. \text{ And doing this: } A/B/C/D/E\dots, \text{ we can do this: } \frac{A}{BCDE\dots}.$$

So to begin with, we get first $-44/(-11) = 44/11 = 4$, and then get $4/4 = 1$.

In sum, we get $-44 / (-11) / 4 = 4/4 = 1$.

And using the fact above, we can get it the way below, too.

$$-44 / (-11) / 4 = -44 / (-11 \times 4) = -44/(-44) = 1.$$

H.1. $-3232 / (-32) / (-101)$

H.1. $-3232 / (-32) / (-101) = -3232 / 32 / 101$

To begin with, we have $3232 = 3200 + 32 = 32 \times 100 + 32 = 32 \times (100 + 1) = 32 \times 101$.

So first, we get $-3232 / (-32) = 3232/32 = 101$.

And next, we get $101/(-101) = -1$.

In sum, we get $-3232 / (-32) / (-101) = 101/(-101) = -1$.

And using the fact stated in the example 0, we can get it this way, too:

$$-3232 / (-32) / (-101) = -3232 / \{-32 \times (-101)\} = -3232 / 3232 = -1.$$

And we know the fact that in division, if the number of negatives is odd, the quotient is negative, and if the number of negatives is even, the quotient is positive.

So using the fact above and the fact stated in the example 0, we can get it this way, too:

$$-3232 / (-32) / (-101) = -3232/32/101 = -3232/(32 \times 101) = -3232 / 3232 = -1.$$

H.2. $-32032 / (-1001) / (-1)$

H.2. $-32032 / (-1001) / (-1) = -32032 / 1001 / 1$

To begin with, $32032 = 32000 + 32 = 32 \times 1000 + 32 = 32 \times (1000 + 1) = 32 \times 1001$.

So we can get first $-32032 / (-1001) = 32032/1001 = 32$.

And next, we get $32/(-1) = -32$.

In sum, we get $-32032 / (-1001) / (-1) = 32/(-1) = -32$.

And we can get it the way below, too.

$$\begin{aligned} -32032 / (-1001) / (-1) &= -32032 / \{-1001 \times (-1)\} = -32032/1001 = (-1 \times 32032)/1001 \\ &= (-1 \times 32 \times 1001)/1001 = -1 \times 32 \times (1001/1001) = -1 \times 32 \times 1 = -1 \times 32 = -32. \end{aligned}$$

And using the facts stated above, we can get it the way below, too.

$$\begin{aligned} -32032 / (-1001) / (-1) &= -32032/1001/1 = -32032/(1001 \times 1) = -32032/1001 \\ &= -32 \times 1001/1001 = -32. \end{aligned}$$

H.3. $-321321 / 321 / (-1001)$

H.3. $-321321 / 321 / (-1001) = 321321 / 321 / 1001$

To begin with, we can get $321321 = 321 \times 1000 + 321 = 321 \times 1001$.

So we get first $-321321/321 = -1001$. And next, we get $-1001/(-1001) = 1$.

In sum, we get $-321321 / 321 / (-1001) = -1001 / (-1001) = 1$.

And using the facts stated above, we can get it the way below, too:

$$\begin{aligned} -321321 / 321 / (-1001) &= 321321/321/1001 = 321321/(321 \times 1001) \\ &= 321321/321321 = 1. \end{aligned}$$

H.4. $-121 / (-11) / (-11) / (-1)$

H.4. $-121 / (-11) / (-11) / (-1) = 121 / 11 / 11 / 1 = 121 / 11 / 11$

To begin with, we can get

$$121 = 100 + 10 + 10 + 1 = 10 \times 10 + 10 + 10 + 1 = 10 \times (10 + 1) + 10 + 1 \\ = 10 \times 11 + 10 + 1 = 10 \times 11 + 11 = 11 \times 11$$

So first, we can get $-121 / (-11) = 121/11 = (11 \times 11)/11 = 11$.

Thus next, we can get $11 / (-11) = -1$. And next, we get $-1 / (-1) = 1$.

And using the facts stated above, we can get it this way, too.

$$-121 / (-11) / (-11) / (-1) = 121/11/11/1 = 121/(11 \times 11 \times 1) = 121/121 = 1.$$

H.5. $-12321 / (-111) / (-123) / (-1)$

H.5. $-12321 / (-111) / (-123) / (-1) = 12321 / 111 / 123 / 1 = 12321 / 111 / 123$

$$-12321 / (-111) / (-123) / (-1) = -12321 / \{(-111) \times (-123) \times (-1)\} = -12321 / (-12321) = 1$$

H.6. $-24642 / (-111) / (-2)$

H.6. $-24642 / (-111) / (-2) = -24642 / 111 / 2$

And we can get $24642 = 2 \times 12321 = 2 \times 111 \times 111 = 222 \times 111$.

So we get $-24642/222 = -111$, which equals, of course, $-24642 / (-111) / (-2)$.

H.7. $-36963 / (-111) / (-3)$

H.7. $-36963 / (-111) / (-3) = -36963 / 111 / 3$

And we can get $36963 = 3 \times 12321 = 3 \times 111 \times 111 = 333 \times 111$.

So we get $-36963/333 = -111$.

H.8. $-1234231 / (-1111) / (-101)$

H.8. $-1234231 / (-1111) / (-101) = -1234231 / 1111 / 101$

And we can get $1234321 = 1111 \times 1111$. So we get $1234321/1111 = 1111$.

Next, $1111 = 1100 + 11 = 11 \times 100 + 11 = 11 \times 101$. So we get $1111/101 = 11$.

Thus, we get $-1234321 / (-1111) / (-101) = -1234321/1111/101 = 11$.

And we can get the same the way below, too.

$$1111 \times 101 = 1111 \times (100 + 1) = 111100 + 1111 = 112211$$

$$\begin{aligned} 1234321 - 112211 &= 1000000 + 100000 + 20000 + 2000 + 100 + 10 = 1122110 \\ &= 112211 \times 10. \end{aligned}$$

That is to say that $1234321 - 112211 = 112211 \times 10$.

$$\text{So we get } 1234321 = 112211 \times 10 + 112211 = 112211 \times (10 + 1) = 112211 \times 11.$$

Thus, we get

$$\begin{aligned} -1234321 / (-1111) / (-101) &= -1234321/1111/101 = -1234321/(1111 \times 101) \\ &= -1234321 / 112211 = -(112211 \times 11)/112211 = -11. \end{aligned}$$

H.9. $-2468642 / (-1111) / (-2) / (-101)$

H.9. $-2468642 / (-1111) / (-2) / (-101) = 2468642 / 1111 / 2 / 101$

This time, let's do it the way below.

First, we do this: $2468642/1111$. Next, using the result, we do $2468642/1111/2$.

And then, using the result, we do $2468642/1111/2/101$.

We can get first $2468642 = 2 \times 1234321 = 2 \times 1111 \times 1111 = 2222 \times 1111$.

So we get $2468642/1111 = 2222$. Next, $2222/2 = 1111$.

And we can get $1111 = 1100 + 11 = 11 \times 100 + 11 = 11 \times 101$.

So next, we get $1111/101 = 11 \times 101/101 = 11$.

In sum, we get

$$-2468642 / (-1111) / (-2) / (-101) = \underline{2468642/1111}/2/101 = \underline{2222}/2/101 = 1111/101 = 11.$$

H.A. $-2468642 / (-1111) / (-101)$

H.A. $-2468642 / (-1111) / (-101) = -2468642 / 1111 / 101$

This time, too, let's do it the way above.

To begin with, $2468642 = 2 \times 1234321 = 2 \times 1111 \times 1111 = 2222 \times 1111$.

So we get $2468642/1111 = 2222 \times 1111/1111 = 2222$.

And $2222 = 2 \times 1111 = 2 \times 11 \times 101 = 22 \times 101$. So next, $2222/101 = 22 \times 101/101 = 22$.

In sum, we get

$$-2468642 / (-1111) / (-101) = -2468642/1111/101 = -2222/101 = -22.$$

H.B. $-36963 / (-111) / (-3)$

H.B. $-36963 / (-111) / (-3) = -36963 / 111 / 3$

This time, too, let's do it the way above.

To begin with, we can get $36963 = 3 \times 12321 = 3 \times 111 \times 111 = 333 \times 111$.

So first, we get $36963/111 = 333$. And next, we get $333/3 = 111$.

So in sum, we get $-36963 / (-111) / (-3) = -36963/111/3 = -333/3 = -111$.

H.C. $121 / (-11) / (-1)$

$$\text{H.C. } 121 / (-11) / (-1)$$

$$= 121/11/1 = 121/11 = 11$$

$$\text{H.D. } 225 / (-25) / (-5)$$

H.D. $225 / (-25) / (-5) = 225 / 25 / 5$

$$225 = 200 + 25 = 2 \times 4 \times 25 + 25 = 8 \times 25 + 25 = 25 \times 9$$

$$225 / (-25) = -9$$

$$225 / (-25) / (-5) = -9 / (-5) = 9/5$$

And of course, we can put it this way, too:

$$225 / (-25) / (-5) = 225/25/5 = 225/(25 \times 5) = 25 \times 9/(25 \times 5) = 9/5.$$

H.E. $-625 / 25 / (-5)$

H.E. $-625 / 25 / (-5) = 625 / 25 / 5$

First, $625 = 600 + 25 = 6 \times 100 + 25 = 6 \times 4 \times 25 + 25 = 24 \times 25 + 25 = 25 \times 25$.

So we get $625/25 = 25$. Thus we get $625/25/5 = 25/5 = 5$.

And we can get it the way below, too.

We can get $625/25/5 = 625/(25 \times 5)$. And we have $625 = 25 \times 25$

So next, we get $625/(25 \times 5) = 25 \times 25/(25 \times 5) = 5$.

H.F. $-1225 / 35 / (-5)$

H.F. $-1225 / 35 / (-5) = 1225 / 35 / 5$

First, we can get

$$1225 = 1200 + 25 = 12 \times 100 + 25 = 12 \times 4 \times 25 + 25 = 48 \times 25 + 25 = 25 \times 49 = 5^2 \times 7^2.$$

And we have $35 = 5 \times 7$, so we can get $1225 / 35 = 5^2 \times 7^2 / (5 \times 7) = 5 \times 7$.

Thus, we get $1225/35/5 = 5 \times 7/5 = 7$.

And we can notice that $1225 = 35^2$, because $1225 = 5^2 \times 7^2 = (5 \times 7)^2 = 35^2$.

So we can get it this way, too: $1225/35/5 = 35/5 = 7$.

H.G. $-2025 / 45 / (-5)$

H.G. $-2025 / 45 / (-5) = 2025 / 45 / 5$

$$2025 = 2000 + 25 = 20 \times 100 + 25 = 20 \times 4 \times 25 + 25 = 25 \times 80 + 25 = 25 \times 81 = 5^2 9^2.$$

And $5^2 9^2 = 45^2$. So we get $2025/45/5 = 45/5 = 9$.

H.H. $3025 / (-55) / (-11)$

H.H. $3025 / (-55) / (-11) = 3025 / 55 / 11$

First, $3025 = 3000 + 25 = 30 \times 100 + 25 = 30 \times 4 \times 25 + 25 = 25 \times 120 + 25 = 25 \times 121$.

And $25 \times 121 = 25 \times 11 \times 11 = 5^2 \times 11^2 = 55^2$.

So we get $3025/55/11 = 55/11 = 5$.

H.I. $9025 / (-95) / (-5)$

H.I. $9025 / (-95) / (-5) = 9025 / 95 / 5$

First, $9025 = 9000 + 25 = 90 \times 100 + 25 = 90 \times 4 \times 25 + 25 = 25 \times 360 + 25 = 25 \times 361$.

And $361 = 19 \times 19$.

So we get $9025 = 25 \times 19 \times 19 = 5^2 \times 19^2 = (5 \times 19)^2 = 95^2$.

Thus, we get $9025/95/5 = 95/5 = 19$.

H.J. $5625 / (-75) / (-15)$

H.J. $5625 / (-75) / (-15) = 5625 / 75 / 15$

First, $5625 = 5000 + 625 = 50 \times 100 + 25 \times 25 = 25 \times 200 + 25 \times 25 = 25 \times 225$.

And $225 = 200 + 25 = 8 \times 25 + 25 = 25 \times 9$.

So $5625 = 25 \times 225 = 25 \times 25 \times 9$.

Next, $75 = 25 \times 5$.

So we get $5625/75/15 = 25 \times 25 \times 9/(25 \times 5)/15 = 25 \times 9/5/15 = 5 \times 9/15 = 9/3 = 3$.

H.K. $7225 / (-85) / (-5)$

H.K. $7225 / (-85) / (-5) = 7225 / 85 / 5$

First, $85 = 80 + 5 = 16 \times 5 + 5 = 5 \times 17$.

Next, $7225 = 7000 + 225 = 70 \times 4 \times 25 + 25 \times 9 = 25 \times 280 + 25 \times 9 = 25 \times 289$.

And $289 = 17 \times 17$. So we get: $7225 = 25 \times 17 \times 17$.

So we get $7225/85/5 = 25 \times 17 \times 17/(5 \times 17)/5 = 25 \times 17 \times 17/(25 \times 17) = 17$.

H.L. $-4225 / 65 / (-13)$

H.L. $-4225 / 65 / (-13) = 4225 / 65 / 13$

First, $65 = 60 + 5 = 12 \times 5 + 5 = 5 \times 13$.

Next, $4225 = 4000 + 225 = 40 \times 100 + 25 \times 9 = 160 \times 25 + 25 \times 9 = 25 \times 169$.

And $169 = 13 \times 13$. So we get $4225 = 25 \times 13 \times 13$.

So we get $4225/65/13 = 25 \times 13 \times 13 / (5 \times 13) / 13 = 25 \times 13 \times 13 / (5 \times 13 \times 13) = 5$.

H.M. $123123 / -1001 / (-123)$

H.M. $123123 / (-1001) / (-123) = 123123 / 1001 / 123$

First, $123123 = 123 \times 1001$.

So we get $123123/1001/123 = 123 \times 1001/1001/123 = 123/123 = 1$.

H.N. $1230123 / (-10001) / (-123)$

H.N. $1230123 / (-10001) / (-123) = 1230123 / 10001 / 123$

First, $1230123 = 1230000 + 123 = 123 \times 10000 + 123 = 123 \times 10001$.

So we get $1230123/10001/123 = 123/123 = 1$.

H.O. $-12300123 / 100001 / (-123)$

H.O. $-12300123 / 100001 / (-123) = 12300123 / 100001 / 123$

First, $12300123 = 12300000 + 123 = 123 \times 100000 + 123 = 123 \times 100001$.

So we get $12300123/100001/123 = 123/123 = 1$.