

Multiplying and Dividing Signed Numbers

Grade 7 math · Test · Standards: 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c

Name: _____ Date: _____ Class: _____

This test has 8 questions worth 20 points and fits 45 minutes. Show the sign rule you use, the size of the answer and a check. Write fractions in simplest form and give units in word problems.

Standards: 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c · **Level:** Grade 7

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Multiplying Integers (2 points)

Find each product.

- a. $(-9)(8)$ (1 point)
- b. $(-6)(-12)$ (1 point)

Question 2 Dividing Integers (2 points)

Find each quotient.

- a. $-84 \div 7$ (1 point)
- b. $-90 \div (-15)$ (1 point)

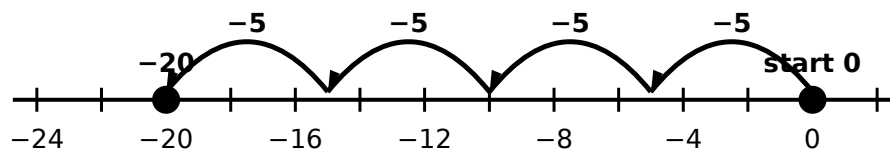
Question 3 Decimals and Fractions (3 points)

Find each value in simplest form.

- a. $(-1.6)(0.45)$ (1 point)
- b. $(-\frac{3}{5})(-\frac{10}{9})$ (1 point)
- c. $\frac{7}{8} \div (-\frac{7}{2})$ (1 point)

Question 4 Number Line Jumps (3 points)

The number line shows four equal jumps starting at 0.



Four equal jumps from 0.

- Write a multiplication equation for the picture. (1 point)
- Write a division equation that follows from it. (1 point)
- Without drawing, give the sign and value of $(-4)(-5)$, and explain. (1 point)

Question 5 Pattern of Products (3 points)

The table lists products of a whole number and -6 , with the first factor shrinking each row.

Product	Result
$3 \times (-6)$	-18
$2 \times (-6)$	-12
$1 \times (-6)$	-6
$0 \times (-6)$	?
$(-1) \times (-6)$	?
$(-2) \times (-6)$	?

Pattern for Question 5.

- Fill in the three blank results. (1 point)
- State how each result relates to the one above it. (1 point)
- What conclusion about multiplying two negative numbers does this support? (1 point)

Question 6 Retreating Glacier (3 points)

A glacier's edge changes position by -2.5 meters each month.

- Find the change after 8 months. (1 point)
- Find the change 6 months ago compared with today, using -6 months. (1 point)
- A different glacier changed by -35 meters in 14 months. Find its mean monthly change. (1 point)

Question 7 Zero and Division (2 points)

- Evaluate $0 \div (-13)$. (1 point)

(b) Explain why $9 \div 0$ is undefined. (1 point)

Question 8 Distributive Property (2 points)

Evaluate $-6 \times (5 - 9)$ in two different ways.