

Grade 7 · Multiplying and Dividing Integers and Rational Numbers · Test Answer Key

Common Core 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c · mathovore.fr

This answer key gives full solutions and a point-by-point scoring guide for the multiplying and dividing integers test. The total is 20 points. Give partial credit as described, and accept equivalent forms of correct answers.

Grade 7 Common Core: 7.NS.A.2a · 7.NS.A.2b · 7.NS.A.2c

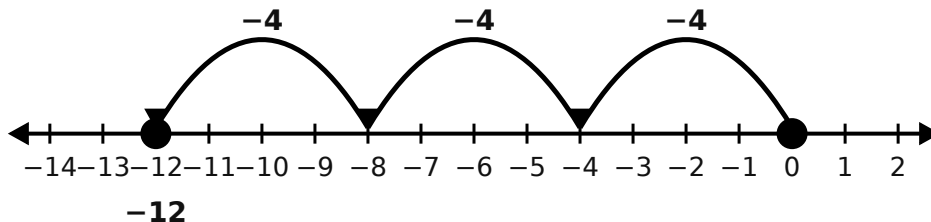
Question 1: Products (2 points)

- a. Different signs: -63 .
- b. Same signs: 66 .

Scoring: 1 point for each correct product.

Question 2: Product from a Number Line (2 points)

Three jumps, each 4 units to the left.



The jumps end at -12 .

$$3 \times (-4) = -12$$

Scoring: 1 point for the correct multiplication $3 \times (-4)$, 1 point for -12 .

Question 3: Quotients (2 points)

- a. Different signs: -9 .
- b. Same signs: 8 .

Scoring: 1 point for each correct quotient.

Question 4: Zero in Division (2 points)

- a. $0 \div (-9) = 0$, since $(-9) \cdot 0 = 0$.

- b. $6 \div 0 = r$ would require $0 \cdot r = 6$. No number multiplied by 0 gives 6, so the quotient is undefined.

Scoring: 1 point for part (a). 1 point for part (b) for explaining that no number r satisfies $0 \cdot r = 6$.

Question 5: Decimals and Fractions (2 points)

- a. $0.5 \times 8.4 = 4.2$, negative: -4.2 .
 b. $\frac{18}{30} = \frac{3}{5}$, positive because both factors are negative.

Scoring: 1 point for each correct product. Accept 0.6 for part (b).

Question 6: A Pattern of Products (3 points)

- a. $(-5)(-1) = 5$ and $(-5)(-2) = 10$.
 b. Each product increases by 5.
 c. The products continue upward past 0 into positive values, so a negative times a negative is **positive**.

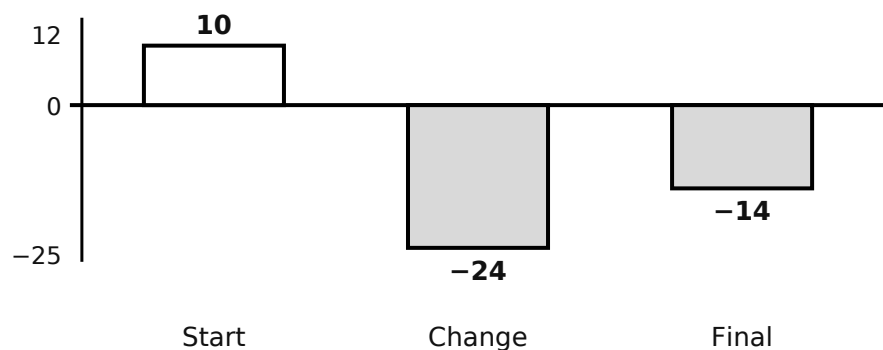
Factor	3	2	1	0	-1	-2
$(-5) \times \text{factor}$	-15	-10	-5	0	5	10

Missing products: 5 and 10.

Scoring: 1 point for each part.

Question 7: Falling Temperature (3 points)

- a. $6 \times (-4) = -24$, so -24°F .
 b. $10 + (-24) = -14$, so -14°F .
 c. $-24 \div 6 = -4^\circ\text{F}$ per hour.



Start, total change, and final temperature.

Scoring: 1 point for each part.

Question 8: Equivalent Forms (2 points)

a. All three equal -3 .

b. $\frac{15}{-3} = \frac{-15}{3} = -5$.

Scoring: 1 point for part (a) with all three values correct. 1 point for part (b), giving the equivalent form and the value.

Question 9: Three Factors (2 points)

$(-2)(-5) = 10$. Then $10 \cdot (-3) = -30$. Finally $-30 \div 6 = -5$.

Scoring: 1 point for a correct partial product (10 or -30), 1 point for the final answer -5 .

Total
20 points