

Explain the sign rule using the distributive property

NAME	DATE	SCORE / 10
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1 $(-8)(3 + (-3)) = (-8)(3) + (-8)(-3)$. The left side is 0, because $3 + (-3) = 0$. What must $(-8)(-3)$ equal, and why?

- ☐ 24, because $-24 + 24 = 0$.
 ☐ -24, because $(-8)(3) = -24$.
 ☐ 0, because $3 + (-3) = 0$.
☐ -24, because the product of two negative numbers is negative.

2 Use $(-6)(2 + (-2)) = (-6)(2) + (-6)(-2)$ to explain why $(-6)(-2)$ must be positive.

3 $(-8)(7 + (-7)) = (-8)(7) + (-8)(-7)$. The left side is 0, because $7 + (-7) = 0$. What must $(-8)(-7)$ equal, and why?

- ☐ 56, because $-56 + 56 = 0$.
☐ -56, because the product of two negative numbers is negative.
☐ -56, because $(-8)(7) = -56$.
 ☐ 0, because $7 + (-7) = 0$.

4 Use $(-7)(7 + (-7)) = (-7)(7) + (-7)(-7)$ to explain why $(-7)(-7)$ must be positive.

5 $(-3)(9 + (-9)) = (-3)(9) + (-3)(-9)$. The left side is 0, because $9 + (-9) = 0$. What must $(-3)(-9)$ equal, and why?

- ☐ -27, because $(-3)(9) = -27$. ☐ 27, because $-27 + 27 = 0$. ☐ 0, because $9 + (-9) = 0$.
☐ -27, because the product of two negative numbers is negative.

6 Use $(-5)(8 + (-8)) = (-5)(8) + (-5)(-8)$ to explain why $(-5)(-8)$ must be positive.

7 $(-5)(9 + (-9)) = (-5)(9) + (-5)(-9)$. The left side is 0, because $9 + (-9) = 0$. What must $(-5)(-9)$ equal, and why?

- ☐ 0, because $9 + (-9) = 0$. ☐ -45, because $(-5)(9) = -45$.
☐ -45, because the product of two negative numbers is negative.
☐ 45, because $-45 + 45 = 0$.

8 Use $(-3)(3 + (-3)) = (-3)(3) + (-3)(-3)$ to explain why $(-3)(-3)$ must be positive.

9 $(-3)(7 + (-7)) = (-3)(7) + (-3)(-7)$. The left side is 0, because $7 + (-7) = 0$. What must $(-3)(-7)$ equal, and why?

- ☐ -21, because $(-3)(7) = -21$.
☐ -21, because the product of two negative numbers is negative. ☐ 0, because $7 + (-7) = 0$.
☐ 21, because $-21 + 21 = 0$.

10 Use $(-7)(2 + (-2)) = (-7)(2) + (-7)(-2)$ to explain why $(-7)(-2)$ must be positive.

Explain the sign rule using the distributive property

1 24, because $-24 + 24 = 0$.

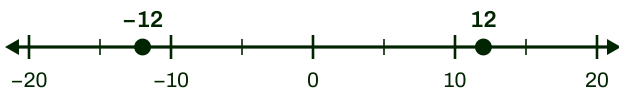
3 56, because $-56 + 56 = 0$.

5 27, because $-27 + 27 = 0$.

7 45, because $-45 + 45 = 0$.

9 21, because $-21 + 21 = 0$.

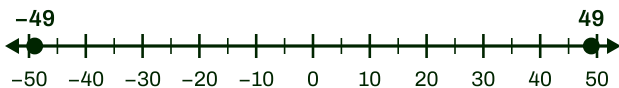
2 A written explanation



A model answer: $2 + (-2) = 0$, so the left side is $(-6)(0) = 0$. On the right, $(-6)(2) = -12$. So $-12 + (-6)(-2) = 0$, and the only number that adds to -12 to make 0 is 12. So $(-6)(-2) = 12$, which is positive.

What counts as right: Counts as right if it makes these points: (1) the left side is 0, because $2 + (-2) = 0$; (2) on the right, $(-6)(2) = -12$; (3) so $(-6)(-2)$ must be the number that adds to -12 to make 0, which is 12. Quoting “two negatives make a positive” does not count: that is the rule being explained.

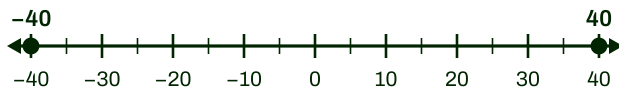
4 A written explanation



A model answer: $7 + (-7) = 0$, so the left side is $(-7)(0) = 0$. On the right, $(-7)(7) = -49$. So $-49 + (-7)(-7) = 0$, and the only number that adds to -49 to make 0 is 49. So $(-7)(-7) = 49$, which is positive.

What counts as right: Counts as right if it makes these points: (1) the left side is 0, because $7 + (-7) = 0$; (2) on the right, $(-7)(7) = -49$; (3) so $(-7)(-7)$ must be the number that adds to -49 to make 0, which is 49. Quoting “two negatives make a positive” does not count: that is the rule being explained.

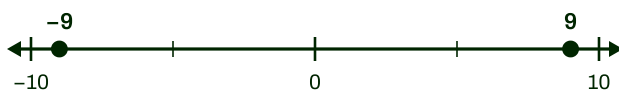
6 A written explanation



A model answer: $8 + (-8) = 0$, so the left side is $(-5)(0) = 0$. On the right, $(-5)(8) = -40$. So $-40 + (-5)(-8) = 0$, and the only number that adds to -40 to make 0 is 40. So $(-5)(-8) = 40$, which is positive.

What counts as right: Counts as right if it makes these points: (1) the left side is 0, because $8 + (-8) = 0$; (2) on the right, $(-5)(8) = -40$; (3) so $(-5)(-8)$ must be the number that adds to -40 to make 0, which is 40. Quoting “two negatives make a positive” does not count: that is the rule being explained.

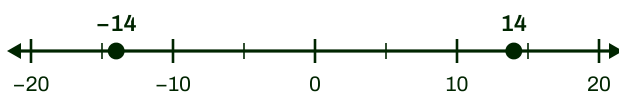
8 A written explanation



A model answer: $3 + (-3) = 0$, so the left side is $(-3)(0) = 0$. On the right, $(-3)(3) = -9$. So $-9 + (-3)(-3) = 0$, and the only number that adds to -9 to make 0 is 9. So $(-3)(-3) = 9$, which is positive.

What counts as right: Counts as right if it makes these points: (1) the left side is 0, because $3 + (-3) = 0$; (2) on the right, $(-3)(3) = -9$; (3) so $(-3)(-3)$ must be the number that adds to -9 to make 0, which is 9. Quoting “two negatives make a positive” does not count: that is the rule being explained.

10 A written explanation



A model answer: $2 + (-2) = 0$, so the left side is $(-7)(0) = 0$. On the right, $(-7)(2) = -14$. So $-14 + (-7)(-2) = 0$, and the only number that adds to -14 to make 0 is 14. So $(-7)(-2) = 14$, which is positive.

What counts as right: Counts as right if it makes these points: (1) the left side is 0, because $2 + (-2) = 0$; (2) on the right, $(-7)(2) = -14$; (3) so $(-7)(-2)$ must be the number that adds to -14 to make 0, which is 14. Quoting “two negatives make a positive” does not count: that is the rule being explained.