

Enrich

Speedy Addition

How would you perform addition like this?

$$-4 + 7 + (-1) + 4 + (-7) + (5)$$

Some people add all the positive integers, add all the negative integers, then add the results.

$$7 + 4 = 11$$

$$-4 + (-1) + (-7) + (-5) = -17$$

$$-17 + 11 = -6$$

Other people find it easier to first group all the zero pairs.

$$-4 + 4 + 7 + (-7) + (-1) + (-5) = -6$$

Which method do you think you would prefer? Check it out by finding each of these sums.

1. $-9 + 5 + 3 + 9 + (-3)$

2. $-16 + 9 + (-11) + 16 + 11 + (-12) + (-9)$

3. $10 + (-8) + (-4) + (-2)$

4. $-6 + 14 + (-11) + (-8) + 7 + 11$

5. $-15 + 6 + (-12) + 3 + 9 + (-3)$

6. $20 + (-13) + (-5) + 13 + (-10) + 16 + (-5)$

7. $19 + (-7) + (-9) + (-9) + 15 + (-10) + 16$

8. $-4 - 17 + (-8) + 5 + (-17) + (-13) + 8 + (-12)$

9. $16 + (-11) + 4 + (-2) + 11 + (-14) + 5 + (-9)$

10. $-21 + 3 + (-7) + (-4) + (-8) + 15 + 6 + 12 + 15$

11. Which method(s) did you use in Exercises 1-10? Did you choose from the methods above, or did you use a different method?

Explain.