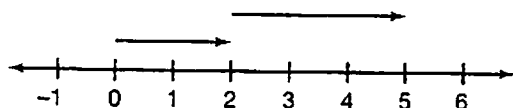Name _____ Date _____ Class _____

SKILL 4: Addition of Integers

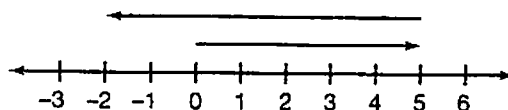You can think of adding integers as making moves on a number line.

Example 1

a. Use the number line to find 2 + 3.

Start at 0. Move 2 units to the right.
Then move 3 more units to the right.
So, 2 + 3 = 5.

b. Use the number line to find 5 + (−7).

Start at 0. Move 5 units to the right.
Then move 7 units to the left.
So, 5 + (−7) = −2.

You can also add integers without the number line.

To add two integers with the same sign: Add the absolute values of the numbers. The sum has the same sign as the addends.

To add integers with different signs: Find their absolute values. The sum is in the direction of the number with the larger absolute value. Subtract the smaller absolute value from the larger to find out how far the sum is in that direction.

Example 2

a. Find −4 + (−6).

$|-4| = 4$, and $|-6| = 6$.

Both numbers are negative.
Add the absolute values, 4 and 6,
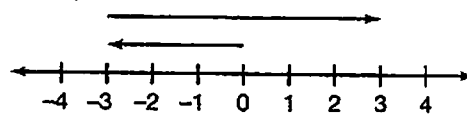to get 10. Use the negative sign.
So, −4 + (−6) = −10.

b. Find 7 + (−9).

$|-7| = 7$, and $|-9| = 9$.

The numbers have different signs.
Subtract the smaller absolute value, 7,
from 9 to obtain 2. The number −9
has a larger absolute value than the
number 7, so the answer is negative.
So, 7 + (−9) = −2.

Guided Practice

1. Use the number line to find −3 + 6.

   Start at 0. Move _____ units to the left. Then

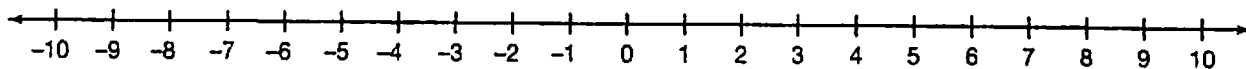   move _____ units to the right. So, −3 + 6 = _____.

2. Find −4 + 7.

   The numbers have different signs. Subtract the smaller absolute value

   from the larger to get _____. Since 7 has a larger absolute value than −4,

   the sign of the answer is _____. So, −4 + 7 = _____.

SKILL 4: Practice

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Use the number line to find each sum.

```
 ←—+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——+——→
  -10  -9  -8  -7  -6  -5  -4  -3  -2  -1   0   1   2   3   4   5   6   7   8   9  10
```

1. $-2 + 7 =$ _____

2. $3 + (-5) =$ _____

3. $5 + 3 =$ _____

4. $7 + (-8) =$ _____

5. $8 + (-8) =$ _____

6. $-3 + (-2) =$ _____

7. $-4 + 9 =$ _____

8. $2 + (-9) =$ _____

9. $3 + (-1) =$ _____

10. $-6 + (-2) =$ _____

11. $4 + 5 =$ _____

12. $-8 + 5 =$ _____

13. $7 + 3 =$ _____

14. $-3 + 2 =$ _____

15. $5 + (-4) =$ _____

Add the integers.

16. $-7 + 12 =$ _____

17. $35 + (-1) =$ _____

18. $-10 + (-12) =$ _____

19. $-6 + (-5) =$ _____

20. $0 + (-6) =$ _____

21. $50 + (-2) =$ _____

22. $1 + (-7) =$ _____

23. $15 + (-15) =$ _____

24. $2 + (-9) =$ _____

25. $-31 + 3 =$ _____

26. $4 + (-12) =$ _____

27. $-23 + 8 =$ _____

28. $10 + (-15) =$ _____

29. $42 + 16 =$ _____

30. $-1 + (-4) =$ _____

Solve.

31. The temperature in Middlefield at 6 A.M. was −15°F.
By 3 P.M., the temperature had risen 19°F. What was
the temperature at 3 P.M.?   _____

32. A diver was 7 m below the surface of the water.
The diver then descended 3 m. What integer
represents the diver's position after the descent?   _____

TEST PREP

33. Find $-12 + 8$.

Skill 4

A −20   **C** 4
B −4   **D** 20

34. Which number is less than −12?

Skill 3

F −14   **H** −3
G −11   **J** 4