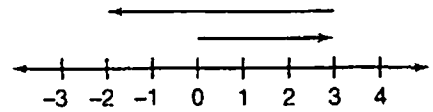




SKILL 5: Subtraction of Integers

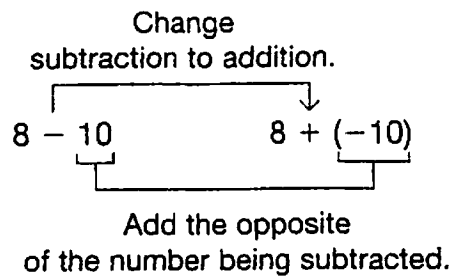
The number line at the right shows how you can find the answer for the subtraction problem $3 - 5$. Start at 0 and go 3 units to the right. From 3, go 5 units to the left. You stop at -2 . So, $3 - 5 = -2$.



Notice that the addition problem $3 + (-5)$ also has the answer -2 . The second number in the addition problem is the opposite of the number that was subtracted in the subtraction problem.

You can use this idea to subtract any two integers.

To subtract two integers: Add the opposite of the number being subtracted.



The answer for $8 - 10$ is the same as the answer for $8 + (-10)$. So, $8 - 10 = -2$.

Example

Find $-10 - 7$.

Change $-10 - 7$ to the addition problem $-10 + (-7)$.

Both the numbers in the addition problem are negative.

Add the absolute values to obtain 17, and use the negative sign.

So, $-10 - 7 = -17$.

Guided Practice

Write an addition for each subtraction. Then show the subtraction result.

1. $9 - 12$

Addition: $9 + (-12) = \underline{\hspace{2cm}}$

So, $9 - 12 = \underline{\hspace{2cm}}$.

2. $-5 - (-9)$

Addition: $-5 + 9 = \underline{\hspace{2cm}}$

So, $-5 - (-9) = \underline{\hspace{2cm}}$.

3. $6 - (-7)$

Addition: $6 + \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$

So, $6 - (-7) = \underline{\hspace{2cm}}$.

4. $2 - 11$

Addition: $2 + (\underline{\hspace{1cm}}) = \underline{\hspace{2cm}}$

So, $2 - 11 = \underline{\hspace{2cm}}$.

SKILL 5: Practice

Write an addition for each subtraction. Then show the subtraction result.

1. $10 - 14$

Addition: _____

So, $10 - 14 =$ _____.

2. $-3 - 11$

Addition: _____

So, $-3 - 11 =$ _____.

3. $-8 - (-6)$

Addition: _____

So, $-8 - (-6) =$ _____.

4. $50 - (-9)$

Addition: _____

So, $50 - (-9) =$ _____.

5. $-15 - 8$

Addition: _____

So, $-15 - 8 =$ _____.

6. $20 - 55$

Addition: _____

So, $20 - 55 =$ _____.

Subtract.

7. $-1 - (-15)$ _____

8. $20 - 3$ _____

9. $11 - (-5)$ _____

10. $20 - 2$ _____

11. $-12 - (-12)$ _____

12. $-2 - (-4)$ _____

13. $7 - 13$ _____

14. $3 - 5$ _____

15. $-6 - 11$ _____

16. $9 - 16$ _____

17. $0 - (-7)$ _____

18. $-4 - (-1)$ _____

19. $5 - (-3)$ _____

20. $-9 - 25$ _____

21. $-18 - 10$ _____

22. $-11 - (-8)$ _____

23. $-16 - 9$ _____

24. $10 - (-9)$ _____

25. $-25 - (-40)$ _____

26. $-48 - 0$ _____

27. $-8 - 7$ _____

Solve.

28. The elevation of New Orleans, Louisiana, is 8 feet below sea level. The elevation of Lake Champlain, Vermont, is 95 feet above sea level. How much higher is the elevation of Lake Champlain than New Orleans?

29. In Fairbanks, Alaska, a typical January temperature is -13°F and a typical April temperature is 30°F . What is the difference between these temperatures?



30. Find $2 - 9$.

A 11

C -7

B 7

D -11

Skill 5

31. Find $-2 + 8$.

F 10

G 6

H -6

J -10

Skill 4