Name _____ Date _____

Adding and Subtracting Integers

Check • Teach • Recheck | Grades 7–8

This isn't a test. It shows your teacher which page will help you most. It does not go in the gradebook.

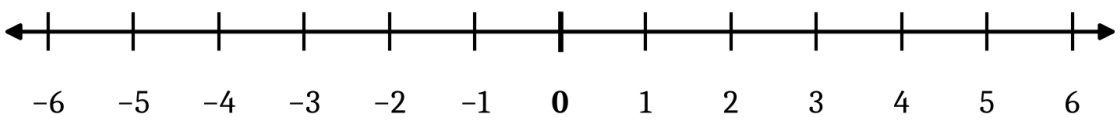
Your teacher will tell you which pages to do. Use a pencil. No calculator. You may use a number line or + and − counters. Show your thinking with words, a drawing, or by telling your teacher.

Entry check

E1 Circle the greater number: −6 or −2. Explain why.

E2 Write the opposite of −5. How far is each number from zero?

E3 Start at 2. Draw a move of 3 spaces left. Circle where you land.



E4 Work out each one. 9 − 4 = _____ 3 + 5 = _____

E5 Do Model X and Model Y have the same value? Explain without changing either model.

Model X ⊖⊖

Model Y ⊖⊖⊖⊕

Teacher selects: Check now / Bridge first (p. 3)

Route pages: A (p. 4) / B (p. 5) / N (p. 6)

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Check before teaching

Solve every part. Show your working in the boxes. Do not look at the teaching pages yet.

C1a $-4 + 7 =$ _____ **C1b** $-7 + 3 =$ _____ **C1c** $-5 + 5 =$ _____	**C2a** $6 + (-8) =$ _____ **C2b** $8 + (-3) =$ _____ **C2c** $-3 + (-5) =$ _____
C3a $2 - 5 =$ _____ **C3b** $7 - 3 =$ _____ **C3c** $4 - 4 =$ _____	**C4** $-2 - 3 =$ _____
C5 $4 - (-3) =$ _____	**C6a** $-6 - (-2) =$ _____ **C6b** $-3 - (-7) =$ _____ **C6c** $-4 - (-4) =$ _____

C7 In C6a, what does the subtraction sign tell you to do? What does the sign inside the brackets tell you about the number?

I used: mental math / number line / counters / other _____

A question I want help with: _____

Your teacher will use this to choose your next page. That's it.

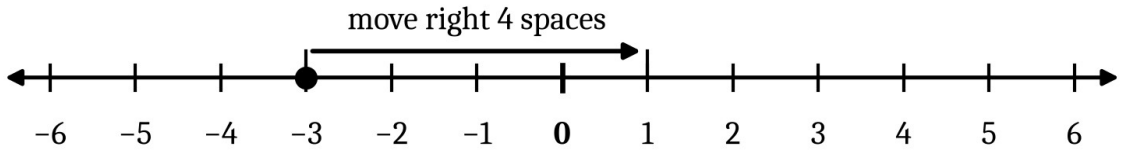
Name _____ Date _____

Bridge with your teacher

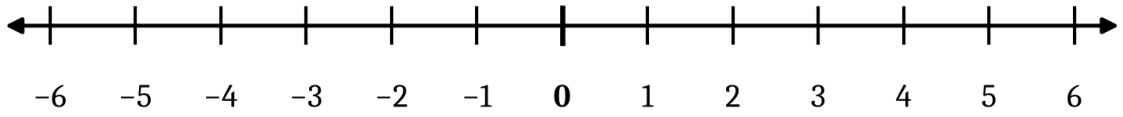
Do only the parts your teacher selects.

Position and movement

Numbers increase to the right. Count the spaces between marks. **Together:** put a finger on −3. Move right one space at a time to 1. That is 4 spaces.



F1 On the number line below, mark −4 and −1. Circle the greater number.



F2 On the same number line, start at 3 and move 4 spaces left. Circle where you land.

Opposites and zero pairs

Opposites are the same distance from zero on different sides: −4 and 4. A + counter and a − counter make a **zero pair**. Their total is 0. **Together:** build −2 with two − counters. Add a zero pair. The value is still −2.

F3 a) Opposite of 3: _____ b) Draw −3 with counters in the box, then add one zero pair.

c) Positives: _____ Negatives: _____ Value: _____

Whole-number facts

Together: build 8 counters. Remove 3. Five remain, and 3 + 5 builds 8 again.

F4 Build or draw 7 counters and remove 4. How many remain? Write an addition equation that checks your answer.

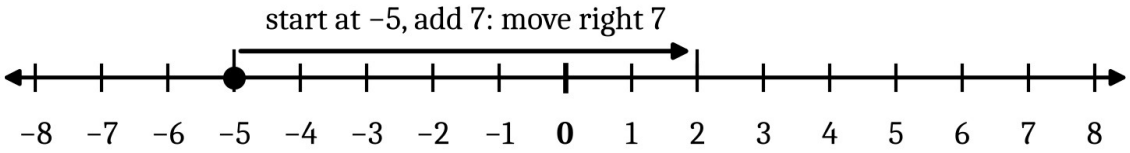
Name _____ Date _____

Route A: Adding integers

Goal: choose the direction, then decide which side of zero you land on.

Build together

Example: −5 + 7. Start at −5. Adding 7 moves right 7 spaces. Five spaces reach zero; two more reach 2. So −5 + 7 = 2.



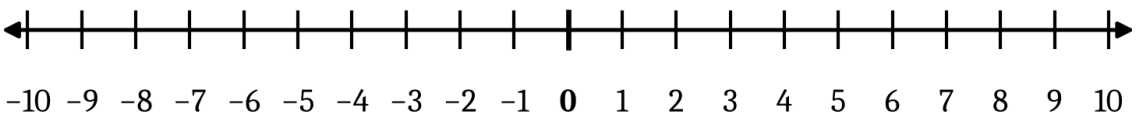
Different signs: 4 + (−6). Start at 4 and move left 6. Four spaces reach zero; two more reach −2. So 4 + (−6) = −2.

Same signs: −1 + (−5). Start at −1 and move left 5. Both numbers pull the same way, so the answer is −6. A number plus its opposite is always 0.

Try with support

A1 −6 + 4: start _____ move _____ spaces _____ land _____

A2 3 + (−5): start _____ move _____ spaces _____ land _____



Practise on your own

A3 −3 + 8 = _____	**A4** 9 + (−4) = _____
A5 −8 + 5 = _____	**A6** 6 + (−6) = _____
A7 −1 + (−7) = _____	

A8 Why is the answer to A3 positive but the answer to A5 negative? Use words or a model.

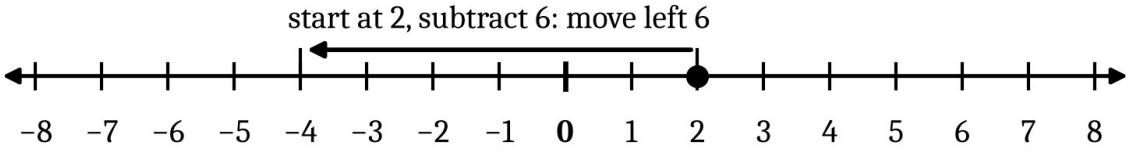
Name _____ Date _____

Route B: Subtracting a positive

Goal: keep the starting number, then move left by the amount being subtracted.

Build together

Example: 2 − 6. Start at 2 and move left 6. Two spaces reach zero; four more reach −4. So 2 − 6 = −4.



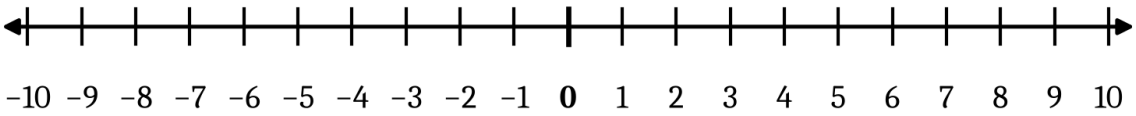
Connect: 2 − 6 = 2 + (−6). Both move left 6 from 2.

Another example: −1 − 3 = −1 + (−3) = −4. Starting below zero does not change the direction. Subtracting a positive always moves left.

Try with support

B1 1 − 6 = 1 + (_____) = _____

B2 −3 − 4 = −3 + (_____) = _____



Practise on your own

B3 6 − 1 = _____	**B4** −4 − 2 = _____
B5 9 − 9 = _____	**B6** −5 − 3 = _____

B7 B3 is positive, B5 is zero, and B6 is negative. Explain how subtracting a positive still moves left every time.

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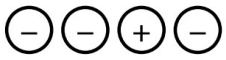
Route N: Subtracting a negative

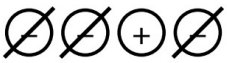
Goal: see what is being taken away, and keep the first number the same.

Build together

Example: −2 − (−3). Start with two − counters. Add one zero pair so the value stays −2. Now remove three − counters.

Start: −2 

Add 1 zero pair 

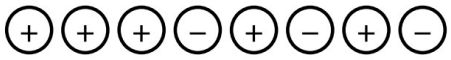
Remove 3 negatives 

One + counter remains. So −2 − (−3) = 1. This matches −2 + 3.

Another example: 1 − (−2). Add two zero pairs to one + counter. Remove the two − counters. Three + counters remain: 1 + 2 = 3.

Try with support

N1 Model for 2 − (−3). Zero pairs have already been added. Cross out 3 − counters.

Prepared model 

Zero pairs added: _____ Starting value still: _____ Value left: _____

N2 −5 − (−2) = −5 + _____ = _____ Keep −5 the same. Add the opposite of −2.

Practise on your own

N3 1 − (−4) = _____	**N4** −6 − (−3) = _____
N5 −2 − (−5) = _____	**N6** −10 − (−10) = _____

N7 Why does adding zero pairs leave the starting value the same? Use words or a model.

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Recheck after practice

Keep the teaching pages closed. Solve every part and show your working. Use the same tools as before. No calculator.

R1a $-5 + 9 =$ _____ **R1b** $-9 + 2 =$ _____ **R1c** $-6 + 6 =$ _____	**R2a** $4 + (-7) =$ _____ **R2b** $9 + (-2) =$ _____ **R2c** $-4 + (-6) =$ _____
R3a $3 - 7 =$ _____ **R3b** $8 - 5 =$ _____ **R3c** $5 - 5 =$ _____	**R4** $-2 - 5 =$ _____
R5 $2 - (-4) =$ _____	**R6a** $-7 - (-4) =$ _____ **R6b** $-2 - (-8) =$ _____ **R6c** $-3 - (-3) =$ _____

R7 A student writes: $-4 - (-6) = 4 + 6 = 10$. Find the first mistake, fix it, and explain your fix.

Teacher records: A _____ B _____ N _____ My next step: _____

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Check again another day

Do this 3 to 7 days after practice, before looking at the teaching pages again. Show your working. Same tools as before. No calculator.

D1a $-7 + 9 =$ _____ **D1b** $-8 + 4 =$ _____ **D1c** $-7 + 7 =$ _____	**D2a** $5 + (-9) =$ _____ **D2b** $7 + (-2) =$ _____ **D2c** $-2 + (-7) =$ _____
D3a $3 - 6 =$ _____ **D3b** $9 - 3 =$ _____ **D3c** $8 - 8 =$ _____	**D4** $-4 - 5 =$ _____
D5 $3 - (-5) =$ _____	**D6a** $-8 - (-6) =$ _____ **D6b** $-4 - (-9) =$ _____ **D6c** $-9 - (-9) =$ _____

D7 At −6°C, the temperature rises by 8°C. Write an expression and find the new temperature.

D8 *Optional challenge.* Write your own subtraction of a negative number that has a negative answer. Solve it and explain why the answer stays negative.

Teacher records: A _____ B _____ N _____ Review needed: _____