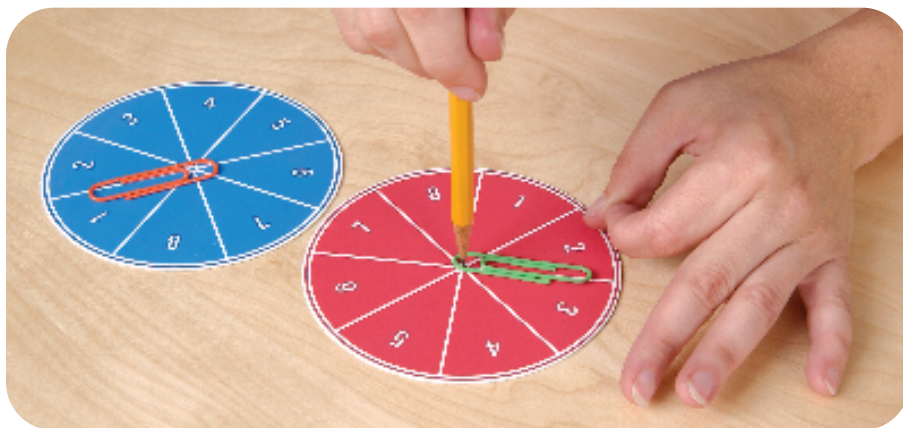# Getting Started

You will need
- a red spinner and a blue spinner, each divided into eighths
- 2 paper clips
- red and blue counters
- number lines
- red and blue coloured pencils

Spinning Numbers

Eva has a red spinner that shows positive numbers and a blue spinner that shows negative numbers. Each spinner is divided into eight equal sections. She spins one spinner and records the number. She spins the other spinner and records the number.

? **What are the greatest and least sums possible?**
What are the greatest and least differences possible?

A. Spin both spinners. Record the sum and the difference in a chart like the one to the right. (Use counters to help you calculate if you wish.) Repeat this nine more times.

Positive number (red)	Negative number (blue)	Sum	Difference

B. Does the order in which you spin the spinners affect the sum? Explain. Does the order in which you spin the spinners affect the difference? Explain.

C. Can you get a sum of 0? Can you get a difference of 0? Explain.

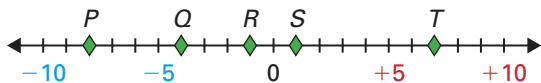**D.** What is your greatest sum? What is the greatest sum you could get?

E. What is your least sum? What is the least sum you could get?

F. What is your greatest difference? What is the greatest difference you could get?

G. What is your least difference? What is the least difference you could get?

Do You Remember?

1. Is each statement true or false?

P Q R S   T
−10   −5   0   +5   +10

a) $P < S$

c) $R > S$

b) $T > Q$

d) $R < P$

2. Order the **integers** from least to greatest.

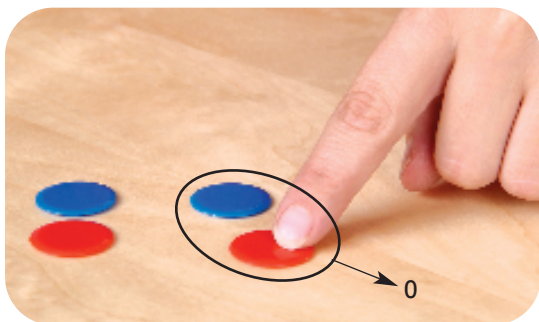$-7, +13, -26, -5, 0, +7$

3. Write an integer for each situation.

a) Wanita earned $12.

b) Jeffrey lost $6.

c) The temperature is 11°C below freezing.

d) The highest point in Canada is Mount Logan. It is 5959 m above sea level.

4. Use red counters to model positive numbers, and blue counters to model negative numbers. Draw your models.

a) What is the **opposite integer** of $+5$?

b) What is the opposite integer of -4?

5. The **zero principle** says that the sum of two opposite integers is 0. Use the zero principle to show that $(-3) + (+2) = (-1)$.

6. Calculate using red and blue counters or a number line as a model. Draw your model.

a) $(+1) - (+3)$

d) $(+8) - (-3)$

b) $0 + (-6)$

e) $(+11) + (-7)$

c) $(-4) + (-7)$

f) $(-10) - 0$

7. Copy and complete each chart. One is done for you as an example.

Counter model	
Number sentence	$(-6) + (+4) = -2$
Number line model	

a)

Counter model	
Number sentence	$(+5) + (-9) = \blacksquare$
Number line model	

b)

Counter model	
Number sentence	$(+3) - (-2) = \blacksquare$
Number line model	

8. Determine the distance and direction on a number line from each starting integer to the ending integer given. Justify your answer using a number line.

Starting integer	Ending integer	Distance and direction
0	+5	
0	−3	
+4	+9	
+7	−4	
−3	−6	
−4	+6	

9. Calculate. Use counters if you wish.

a) $(+6) + (+4) + (-5) + (-5)$

b) $(+5) + (-2) + 0 + (-2)$

Integer Operations **181**