

# Same and Different

## Same and Different

Click [here](#) to download lesson.

Summary	Students will compare graphs of linear functions, looking for similarities and differences, and will produce algebraic expressions, again identifying what is the same and what is different about each one.
Goals	<ol style="list-style-type: none"><li>1. Students look at pairs of function graphs and are able to determine what is the same and what is different for each pair.</li><li>2. Students can compare graphs that are drawn on different coordinate planes with different scales on the <math>y</math>-axes.</li><li>3. Students are able to write the algebraic expressions for each graph and show where in the expression we can see what is the same and what is different.</li></ol>
Materials	Handouts
Duration	45 minutes
Keywords	Compare/Contrast Functions Full Class Discussion Linear Functions Production of Equations Small Group Work

### Activity Plan:

1. Students have pairs of functions on handouts. They work with their peers but write their work on their own handouts. The format for the handouts appears below.

2. The pairs of functions are:

Pair 1 (Handout Pages 1-2):

A)  $f(x) = -2x + 6$

B)  $f(x) = -2x + 4$

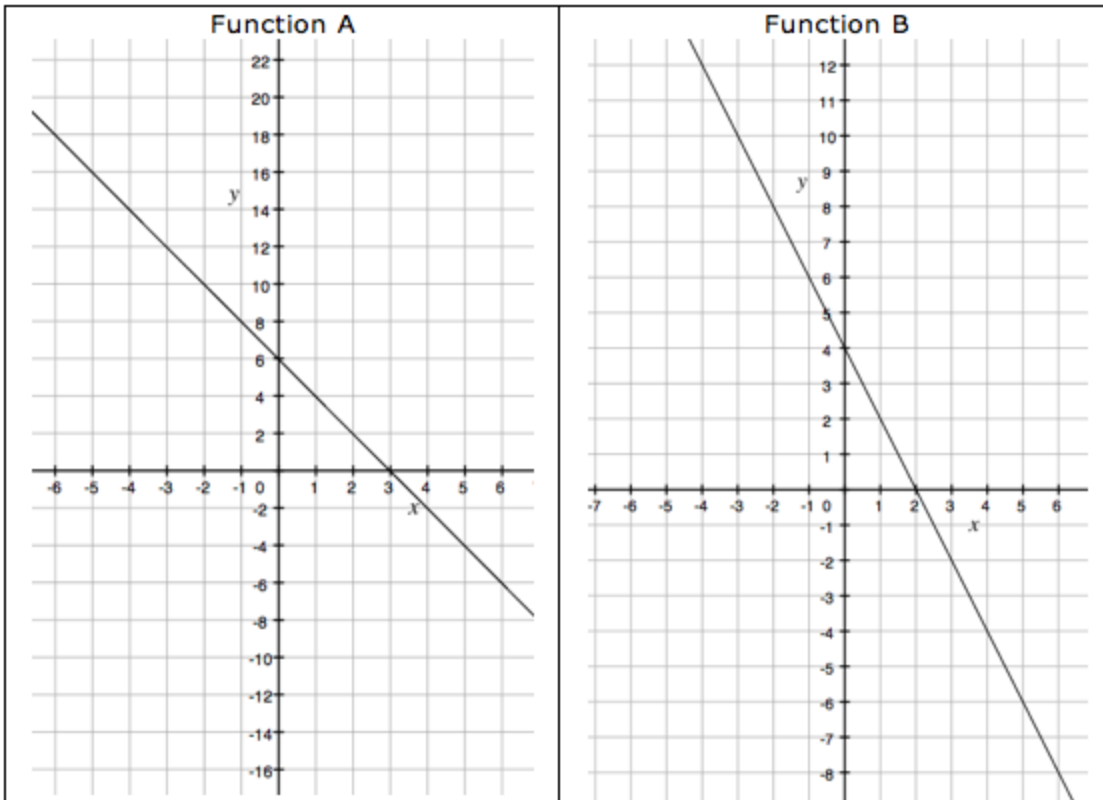
Pair 2 (Handout Pages 3-4):

C)  $f(x) = 0.5x + 2$

D)  $f(x) = -x + 2$

3. After working on this, students share their explanations among the class.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



What is *the same* about the function A and the function B? Explain in words.

What is *different* about the function A and the function B? Explain in words.

**Handout: Same and Different – Pair 1**

**(Page 2)**

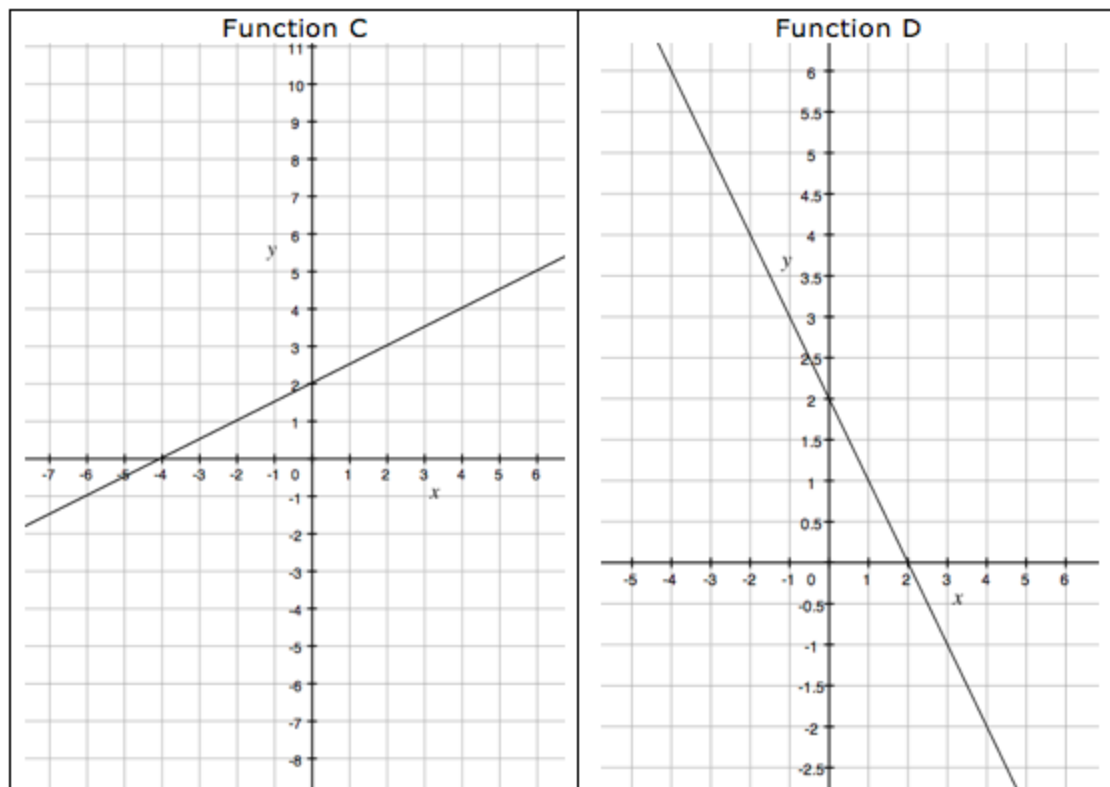
Name: \_\_\_\_\_ Date: \_\_\_\_\_

Write the equation for function A.

Write the equation for function B.

Look at equations for A and B. What is *the same* and what is *different* about the equations?

Name: \_\_\_\_\_ Date: \_\_\_\_\_



What is *the same* about the function C and the function D? Explain in words.

What is *different* about the function C and the function D? Explain in words.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Write the equation for function C.

Write the equation for function D.

Look at equations for C and D. What is *the same* and what is *different* about the equations?