3-3 Additional Practice
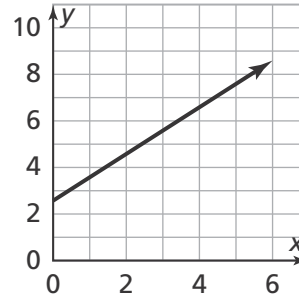
1. Two linear functions are shown below. Which function has the greater rate of change?

Function A

x	y
4	32
8	44
12	56
16	68
20	80

Function B

2. Two linear functions are shown below. Which function has the greater initial value?
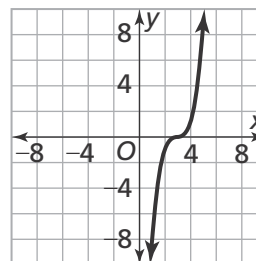
Function A

$y = \frac{3}{4}x + 5$
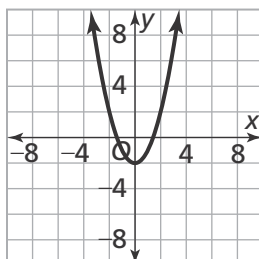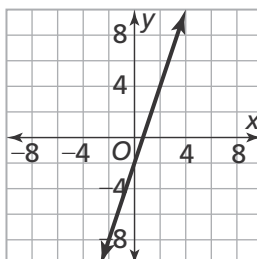
Function B

x	−2	0	2	4	6
y	5	8	11	14	17

3. Tell whether each function is *linear* or *nonlinear*.

Function A

x	−2	1	2	3	4
y	3	0	−1	−2	−3

Function B

4. Decide whether each function is *linear* or *nonlinear* from its graph.

Function I

Function II

Function III
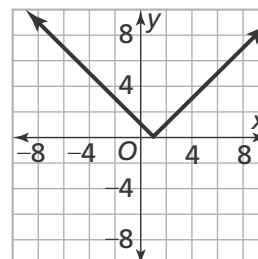
5. Look for Relationships Which two functions have the same rate of change? Ⓒ MP.7

A. $y = 0.5x - 1$　　　**B.** $y = 4x - 7$　　　**C.** $n = 0.6r + 1$　　　**D.** $t = 0.5n + 1$

6. Make Sense and Persevere Glen compares the rates of change of two linear functions represented in different forms. Ⓒ MP.1

a. For a linear function in the form $y = mx + b$, how does Glen determine the rate of change?

b. How can Glen determine the constant rate of change of the linear function presented in the table on the right? What is the rate of change?

x	y
1	22
2	20
3	18
4	16

7. Critique Reasoning The table on the right and the equation $y = 8x + 5$ describe linear functions. A student states incorrectly that the initial values of the functions are equal. Compare the initial values of the functions. What mistake did the student likely make? Ⓒ MP.3

x	y
0	8
1	9
2	10
3	11

Ⓒ Assessment Practice

8. The equation $y = 4x + 60$ and the table each describe a linear function. Compare the properties of the functions. Select all that apply.

x	10	20	30	40
y	60	80	100	120

☐ The linear function described by the table has the greater rate of change.

☐ The linear function described by the equation has the greater rate of change.

☐ The rates of change are equal.

☐ The linear function described by the table has the greater initial value.

☐ The linear function described by the equation has the greater initial value.

☐ The initial values are equal.

9. Jeff saved $500 from his summer job so he would have spending money during the school year. He withdraws $12 from his account each week, so a linear function models his plan. Melissa made a similar plan. The table shows the results of her first five transactions. Compare the functions.

Melissa's Savings

Week	1	2	3	4	5
Balance	$510	$500	$490	$480	$470

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