

# High School Math © 2007

## Test 6

**Presentation Book**

**Textbook**

**Workbook**

**Answer Key** *with Remedies*

# Mastery Test 6— Follows Lesson 65

## EXERCISE 1 TEST 6 Workbook and Textbook

**Note.** Students are to use a calculator only for part 11 of the test.

C  
A  
L  
C

*Note: Students are to use a calculator for part 11 of the test.*

- a. Open your workbook to test 6 at the end of your workbook. Find part 1. ✓
- b. This is a test. You should have only your workbook, textbook, a sharpened pencil, and lined paper.
- c. Work parts 1 through 10. Raise your hand when you've completed part 10.  
(Observe students but do **not** give feedback.)
- (After students complete part 10, permit them to use a calculator to complete part 11. Observe.)

### Marking the Test

- a. (Collect the papers. Use the *Answer Key* to score the tests. Award scores as follows.)

TEST 6 PERCENT SUMMARY					
SCORE	%	SCORE	%	SCORE	%
41	100	36	88	31	76
40	98	35	85	30	73
39	95	34	83	29	71
38	93	33	80		
37	90	32	78		

- b. (Complete the Test 6 Remedy Summary to determine whether remedies are needed. Reproducible Summary Sheets are at the back of the *Teacher's Guide*.)
- (If more than 1/4 of the students did not pass a test part, present the remedy for that part before beginning lesson 66. Remedies appear at the end of the Test 6 *Answer Key*.)



**Mastery Test 6—Follows Lesson 65**  
**Textbook**

**Part 4**

Solve each problem. Remember to write the unit name.

- a. Leila knitted scarves for birthday presents. The wool she used to make scarves cost \$30. On average, what was the cost per scarf?  $\frac{12}{A}$
- b. In 8 days, Shamar drank 30 pints of water. What is the average number of pints of water per day that Shamar drank each day?
- c. 7260 gallons of water flows over the waterfall every 12 seconds. What is the waterfall's rate of flow in gallons per second?

**Part 5**

Solve each equation for  $y$ . Then complete the equation  $m = \blacksquare$ .

a.  $4y = 3x$

b.  $2y - 8x = 0$

c.  $\frac{1}{3}y = \frac{5}{2}x$

**Part 6**

Copy and simplify each expression.

a.  $3(7 - m + 4) - 16$

b.  $3 - 2(x - 8 + 3x) + 6$

c.  $5p + (9p + 3 - 2p)4 + 1$

**Part 7**

Write the complete equation to show the equivalent fraction with positive exponents.

a.  $\frac{c^3 \cdot 3^4}{5^4 \cdot 2^{-5} \cdot 8^2} = \blacksquare$

b.  $\frac{d^{-3} \cdot 5^{-6}}{8^2 \cdot 7^{-7}} = \blacksquare$

**Part 8**

Write a letter equation for each problem. Then figure out the answer to the problem.

- a. There are  $\frac{5}{4}$  as many bowls as people. If there are 25 bowls, how many people are there?
- b. There are 3.5 times as many cats as there are dogs. If there are 28 dogs, how many cats are there?

**Part 9**

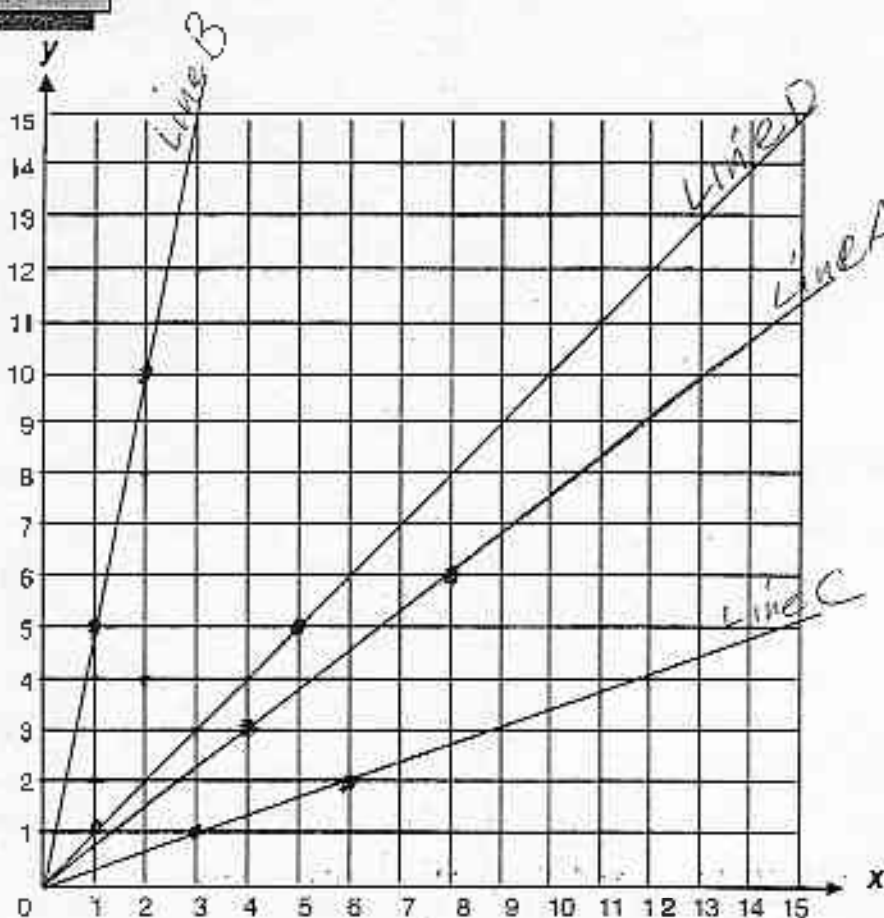
Work each problem.

- a. 25% of the items were on sale. There were 120 items. How many were on sale?
- b. The dog's weight is 250% of the cat's weight. The dog weighs 20 pounds. What does the cat weigh?
- c.  $\frac{4}{5}$  of the scarves are blue. There are 40 scarves. How many blue scarves are there?

# Mastery Test 6 cont.

## Part 10

Write the equation for each line.

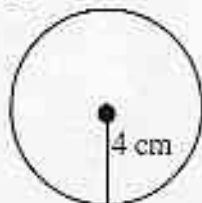


## Part 11

Find the circumference or perimeter of each shape. Then find the area.



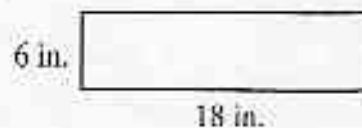
a.



b.



c.



**((Answer Key Book))**  
**Mastery Test 6—Follows Lesson 65**

TEST 6 PERCENT SUMMARY					
SCORE	%	SCORE	%	SCORE	%
41	100	36	88	31	76
40	98	35	85	30	73
39	95	34	83	29	71
38	93	33	80		
37	90	32	78		

TEST 6 SCORING CHART			
Part	Score	Possible Score	Passing Score
	1 for each item	4	4
2	1 for each row		
	1 for each labeled point	8	6
3	1 for each item	3	3
4	1 for each item	3	3
5	1 for each item	3	3
6	1 for each item	3	2
7	1 for each item	2	2
8	1 for each item	2	2
9	1 for each item	3	3
10	1 for each item	4	4
11	1 for each answer	6	5
<b>TOTAL</b>		<b>41</b>	

*SRA, 3/3/06*  
*Bernie*  
*might adjust*  
*possible scores*  
*and passing*  
*scores for all*  
*tests following*  
*completion of*  
*T. Guidelines.*  
*This is a heads up.*  
*Score changes*  
*would impact*  
*TPBs as well*  
*SIALC Zones*  
*would change*

## Mastery Test 6—Follows Lesson 65 Workbook

### Part 1

Rewrite each fraction. First show a base number with a positive exponent. Then show a base number with a negative exponent.

a.  $\frac{6 \times 6 \times 6}{6 \times 6 \times 6 \times 6} = \frac{1}{6^2} = 6^{-2}$

c.  $\frac{11 \times 11 \times 11 \times 11}{11 \times 11} = 11^4 = \frac{1}{11^{-4}}$

b.  $\frac{k \times k \times k \times k \times k}{k \times k \times k} = k^2 = \frac{1}{k^{-2}}$

d.  $\frac{m^3}{m \times m \times m} = \frac{1}{m^2} = m^{-2}$

6-into-3  
3-into-1  
3-into-1  
3-into-1

### Part 2

Complete the table. Plot and label each point. Then draw the line.

Show the coordinates.

	Function
	$y = \frac{1}{2}x$
A	$(\frac{1}{2})8$
B	$(\frac{1}{2})6$
C	$(\frac{1}{2})10$
D	$(\frac{1}{2})4$



ghost graph  
 $y = \frac{1}{2}x$

A(2)  $4 = \frac{1}{2} \times (2)$   
 $8 = x$

D(2)  $2 = \frac{1}{2} \times (2)$   
 $4 = x$

### Part 3

Work each problem.

a.  $6(-3) + 2(5) - 4\left(\frac{7}{2}\right) = \blacksquare$

c.  $-6\left(-\frac{1}{3}\right) + 2 - 8(-5) = \blacksquare$

$-18 + 10 - 14 = -22$

$2 + 2 + 40 = 44$

b.  $-8 - 30(-1) + 6(4) = \blacksquare$

$-8 + 30 + 24 = 46$

$2 + 2 + 40 = 44$

((Gray-shaded boxes for rewriting problem))

((dark box))

# ANSWER KEY

## Mastery Test 6

### [Part 4]

Page 2 of 3

a.  $\frac{a}{5} = \frac{6}{5}$   
 $\frac{c}{5} = \frac{30}{12}$

$2\frac{1}{2}$  dollars per scarf or \$2.50 per scarf

b.  $\frac{p}{d} = \frac{p}{d}$   
 $\frac{p}{d} = \frac{30}{8}$

$3\frac{3}{4}$  pints per day

c.  $\frac{g}{5} = \frac{g}{5}$   
 $\frac{g}{5} = \frac{7260}{12}$

605 gallons per second

### [Part 5]

a.  $(\frac{1}{4})y = 3x (\frac{1}{4})$

$y = \frac{3}{4}x$

$m = \frac{3}{4}$

b.  $2y - 8x = 0$   
 $+8x + 8x$

$(\frac{1}{2})2y = 8x(\frac{1}{2})$

$y = 4x$

$m = 4$

c.  $(3)\frac{1}{3}y = \frac{5}{2}x(3)$

$y = \frac{15}{2}x$

$m = \frac{15}{2}$

### [Part 6]

a.  $3(7-m+4)-16$

$3(11-m)-16$

$33-3m-16$

$17-3m$

or  $[-3m+17]$

b.  $3-2(n-8+3n)+6$

$9-2(4n-8)$

$9-8n+16$

$25-8n$

or  $[-8n+25]$

c.  $5p+(9p+3-2p)4$

$5p+(7p+3)4+1$

$5p+28p+12+1$

$33p+13$

or  $[13+33p]$

### [Part 7]

a.  $\frac{c^5 \cdot 3^{-4}}{5^4 \cdot 2^{-5} \cdot 8^2} = \frac{c^5 2^5}{5^4 8^2 3^4}$

b.  $\frac{d^{-3} \cdot 5^{-6}}{8^2 \cdot 7^{-7}} = \frac{7^7}{8^2 d^3 5^6}$

Order of values may vary.

((Note regarding dots? Gray dots?))

ANSWER KEY  
Mastery Test 6  
[Part 8]

a.  $\frac{5}{4}p = b$   $[b=25]$

$(\frac{4}{5})\frac{5}{4}p = 25(\frac{4}{5})$

$p = 20$

$[20 \text{ people}]$

b.  $c = 3.5d$   $[d=28]$

$c = 3.5(28)$

$c = 98$

$[98 \text{ cats}]$

[Part 9]

$[s = 40]$

a.  $\frac{4}{5}s = b$

$\frac{4}{5}(40) = b$

$32 = b$

$[32 \text{ [blue] scarves}]$

a.  $\frac{25}{100}i = 05$   ~~$\frac{75}{100}i = \text{nos}$~~   $[i=]$   
 $\frac{25}{100}(120) = 05$

$30 = 05$

$[30 \text{ items [on sale]}]$

b.  $d = \frac{250}{100}c$   $[d=20]$

$(\frac{100}{250})20 = \frac{250}{100}c(\frac{100}{250})$

$8 = c$

$[8 \text{ pounds}]$

[Part 10]

A  $y = \frac{3}{4}x$

B  $y = 5x$

C  $y = \frac{1}{3}x$

D  $y = x$

[Part 11]

a.  $C = \pi d$

$C = \pi 8$

$C = 25.13$

$[25.13 \text{ cm}]$

[without  $\pi$  key, 25.12 cm]

$A = \pi(r \times r)$

$A = \pi(4 \times 4)$

$A = 50.27$

$[50.27 \text{ sq cm}]$

[without  $\pi$  key, 50.24 sq cm]

b.  $P = 10$

17

+ 21

$[48 \text{ ft}]$

$A = \frac{1}{2}(b \times h)$

$A = \frac{1}{2}(21 \times 8)$

$A = \frac{1}{2}(168)$

$[84 \text{ sq ft}]$

c.  $P = 18$

6

18

+ 6

$[48 \text{ in.}]$

$A = b \times h$

$A = 18 \times 6$

$[108 \text{ sq in.}]$

# Test 6

**Note:** Provide any remedies for test 6 before beginning lesson 66. If more than 1/4 of the students did not pass a test part, present a remedy for that part. You may reproduce the Remedy Summary Sheet and blackline masters (Test 6-BLM 1 and 2) at the back of the Teacher's Guide.

## Test 6 Remedies

Test 1	Lesson	Exercise	Textbook Part	Test 6 BLM
Part 1	59	3	-	Test 6-BLM 2
<del>Part 2</del>	<del>58</del>	<del>2</del>	<del>3</del>	<del>Test 6-BLM 1</del>
Part 3	59	4	-	Test 6-BLM 2
<del>Part 4</del>	<del>63</del>	<del>3</del>	<del>3</del>	<del>Test 6-BLM 1</del>
Part 5	63	4	4	-
<del>Part 6</del>	<del>65</del>	<del>2</del>	<del>2</del>	<del>Test 6-BLM 1</del>
Part 7	62	Present the items 5 one at a time.	8	-
<del>Part 8</del>	<del>56</del>	<del>3</del>	<del>3 and 4</del>	<del>Test 6-BLM 1</del>
Part 9	62	4	6 and 7	-
<del>Part 10</del>	<del>61</del>	<del>4</del>	<del>4</del>	<del>Test 6-BLM 1</del>
Part 11	60	5	2	-

*(Part 6 Remedy could be L60 or 2 (B 2) or L66 BK will do this in 2001))*



**Lesson 59**

**Part 2**

Rewrite each fraction. First show a base number with a positive exponent. Then show a base number with a negative exponent.

**Sample**  $\frac{4 \times 4 \times 4}{4 \times 4 \times 4 \times 4 \times 4} = \frac{1}{4^2} = 4^{-2}$

a.  $\frac{7 \times 7 \times 7 \times 7 \times 7 \times 7}{7 \times 7} = \square = \square$

b.  $\frac{8 \times 8 \times 8}{8 \times 8 \times 8 \times 8 \times 8 \times 8} = \square = \square$

c.  $\frac{10}{10 \times 10 \times 10 \times 10 \times 10 \times 10} = \square = \square$

d.  $\frac{m \times m \times m \times m \times m \times m \times m \times m}{m \times m} = \square = \square$

*wrong boxes. s/b sample black outlines hollow on side*

*(1) 5000 per m 2.1000 is independent of*

**Lesson 59**

**Part 3**

Work each problem. Multiply to remove the parentheses, then combine values to figure out the answer.

a.  $+8 - 3(4) + 4(-6) - 10 = \blacksquare$   
 $\underline{\hspace{2cm}} = \square$

d.  $-18 - 1(+6) + 6 - 18 = \blacksquare$   
 $\underline{\hspace{2cm}} = \square$

b.  $+11 + 2(-6) - 4(-2) = \blacksquare$   
 $\underline{\hspace{2cm}} = \square$

e.  $-3(+2) - 6 + 12(-1) + 20 = \blacksquare$   
 $\underline{\hspace{2cm}} = \square$

c.  $-4(-3) - 4 - 3 + 17 = \blacksquare$   
 $\underline{\hspace{2cm}} = \square$