Name _____ Time _____

Power-Up Test 21

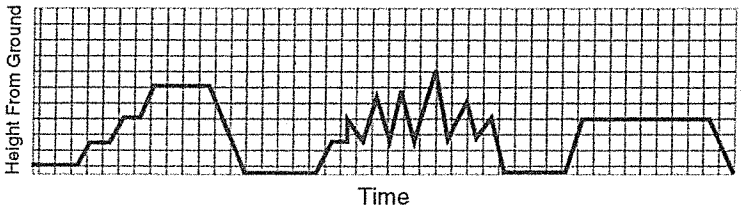
Math Course 2

Facts Complete each step to solve each equation.

$2x + 5 = 45$ $2x =$ $x =$	$3y + 4 = 22$ $3y =$ $y =$	$5n - 3 = 12$ $5n =$ $n =$	$3m - 7 = 14$ $3m =$ $m =$
$15 = 3a - 6$ $= 3a$ $= a$	$24 = 2w + 6$ $= 2w$ $= w$	$-2x + 9 = 23$ $-2x =$ $x =$	$20 - 3y = 2$ $-3y =$ $y =$
$\frac{1}{2}m + 6 = 18$ $\frac{1}{2}m =$ $m =$	$\frac{3}{4}n - 12 = 12$ $\frac{3}{4}n =$ $n =$	$3y + 1.5 = 6$ $3y =$ $y =$	$0.5w - 1.5 = 4.5$ $0.5w =$ $w =$

Problem Solving Answer the question below.

Problem: Sharon took her daughter Susan to a playground. Use the graph to write a brief story about what Susan was doing on the playground.



Understand

What information am I given?
What am I asked to find or do?

Plan

How can I use the information I am given?
Which strategy should I try?

Solve

Did I follow the plan?
Did I show my work?
Did I write the answer?

Check

Did I use the correct information?
Did I do what was asked?
Is my answer reasonable?

Name _____

Score _____

Cumulative Test 21A

Math Course 2

Also take Power-Up Test 21

1. (46) The dinner bill totaled $24.00. Daniel left a 15% tip. How much money did Daniel leave for a tip?

a) $3.50 c) $4.75

b) $3.60 d) $4.90

2. (46, 76) The 200-kilometer drive took $2\frac{1}{2}$ hours. What was the average speed of the drive in kilometers per hour?

a) 65 Km/hr c) 80 Km/hr

b) 50 Km/hr d) 100 Km/hr

Use ratio boxes to solve problems 3–5.

3. (98) The $\frac{1}{12}$-scale model of the rocket stood 48 inches high. What was the height of the actual rocket?

a) 96 in. c) 576 in.

b) 48 ft. d) 12 ft

4. (92) Samantha saved $35 buying the suit at a 20%-off sale. What was the regular price of the suit?

a) $175. c) $160.

b) $150. d) $190.

5. (92) A merchant bought an item for $30.00 and sold it for 50% more. For what price did the merchant sell the item?

a) $100.00 c) $10.00

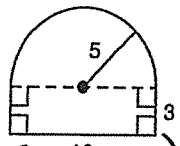
b) $90.50 d) $45.00

6. (60) What is the sales tax on a $48.00 purchase if the tax rate is 6.5%?

a) $2.13 c) $3.12

b) $3.21 d) $1.23

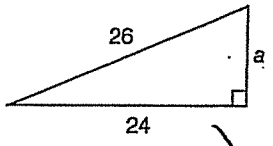
7. (104) Find the perimeter of this figure. Use 3.14 for π. Dimensions are in centimeters.



a) 31.7 cm c) 314 cm

b) 150 cm d) 53 cm

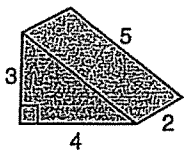
8. (99) Use the Pythagorean Theorem to find *a*. Dimensions are in inches.



a) 50 in c) 40 in.

b) 10 in d) 8 in

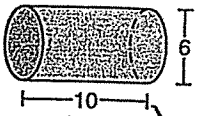
9. (105) Find the surface area of this prism. Dimensions are in inches.



a) 40 in^2 c) 35 in^2

b) 36 in^2 d) 30 in^2

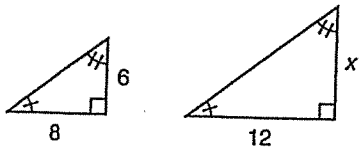
10. (95) Find the volume of this cylinder. Use 3.14 for π. Dimensions are in centimeters.



a) $60\ cm^2$ c) $656\ cm^3$

b) $300\ cm^3$ d) $282.6\ cm^3$

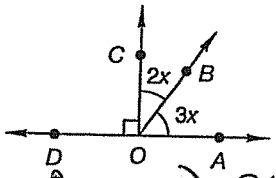
11. (97) These two triangles are similar. Find x.



a) 7 c) 11

b) 9 d) 10

12. (101) Find the measure of $\angle BOC$ in this figure.



a) 30° c) 34°

b) 36° d) 32°

13. (100) **a.** Arrange in order from least to greatest: $3, 3^2, \sqrt{3}, -3$

b. Which of the numbers in part **a.** is irrational?

a)

b)

14. (Inv. 8) If John flips a fair coin twice, what are the odds that the coin will land heads up twice?

a) 1:2 c) 1:4

b) 1:3 d) 1:5

15. (100) Which of these numbers is between 7 and 9?

A. $\sqrt{8}$

B. $\sqrt{79}$

C. $\sqrt[3]{64}$

Solve 16–17.

16. (102) $3x - 12 + x = 24$

a) 9 c) $\frac{1}{3}$

b) 10 d) 5

17. (39) $\frac{20}{w} = \frac{45}{3.6}$

a) 16 c) 1.6

b) 160 d) .16

Simplify 18–20.

18. (87, 103) $\frac{(2xy)(6x^2)}{3x^2y}$

a) $12xy^2$ c) $2y^2$

b) $4x$ d) $4y^2x$

19. (20, 103) $3^2 + (-2)^3$

a) 1 c) 15

b) 9 d) 32

20. (85) $\frac{(-18) - (-2)(-3)}{(-2) + (-2) - (+4)}$

a) 9 c) 3

b) 6 d) 0