Name

Score

Cumulative Test

10A

Math Course 3

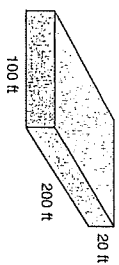Also take Power-Up Test 10

1. The ratio of in-state to out-of-state
(45) visitors to the amusement park was
5 to 2. If there were 14,000 visitors
to the park, how many were from
out of state?

For questions 2 and 3, refer to this sketch
of a warehouse.

100 ft

200 ft

20 ft

2. A company is painting the exterior
(45) walls of a warehouse. Find the
lateral surface area of the walls in
square feet.

3. If a gallon of paint covers 400 ft²,
(4) how many gallons of paint are
needed to paint the warehouse?

For questions 4 and 5, refer to this
quadrilateral.

16 cm

10 cm

22 cm
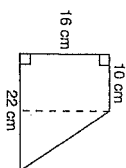
4. What is the area of the
(37) quadrilateral?

5. What is the perimeter of the
(8,
Inv. 2) quadrilateral?

6. Jeremy can type 144 words in
(49) 4 minutes. How many words
can he type in 10 minutes at the
same rate?

7. The sales tax rate is 7.5%. What is
(46) the tax on a $12.40 purchase?

8. If 40% of the students in the class
(46) are boys, and if there are 18 girls in
the class, then how many students
are in the class?

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9. A lawn sprinkler sprays a circular
(40) pattern 14 feet out from the
sprinkler head. About how many
square feet of lawn does the
sprinkler water? (Use $\frac{22}{7}$ for π.)

10. Monica wants to tie a ribbon
(39) around the trunk of an oak tree
that has a circular trunk about
20 inches in diameter. Not counting
the ribbon needed to make a bow,
about how many inches of ribbon
are needed just to reach around the
tree? (Round to the nearest inch.)

For questions 11 and 12, solve for x.

11. $2x - 1.8 = 2.4$
(50)

12. $\frac{1}{2}x + \frac{1}{3} = \frac{3}{4}$
(50)

For questions 13–18, simplify the
expression.

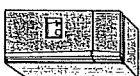**13.** $3x + 2y - x + y$
(31)

14. $3(x + 2) + 2(x + 3)$
(31, 38)

15. $2\frac{2}{3} \cdot 1\frac{1}{2} - 3\frac{3}{4}$
(13, 23)

16. $\frac{a^2 b^3 c}{abc}$
(27)

17. $\frac{a \times 10^8}{4 \times 10^4}$
(46)

18. $(1.2 \times 10^5)(6 \times 10^7)$
(46)

19. The interior dimensions of Sal's
(42) refrigerator are 5 ft by 2$\frac{1}{2}$ ft by 2 ft.
Find the capacity (volume) of the
refrigerator in cubic feet.

20. Find $\frac{1}{2}(a + b)h$ when $a = 6$,
(14, 21) $b = 8$, and $h = 4$.

1.

	In		
Out	5	2	
Total	7	?	14,000

2. Right wall = 200×20 = 4000
Left wall = 200×20 = 4000
Front wall = 100×20 = 2000
Back wall = 100×20 = 2000

$28000 \div 7 = \dfrac{X}{14,000} = 4000$

$\dfrac{2}{7} = \dfrac{X}{14,000}$ out of state visitors

4000
+4000
+2000
+2000
= 12000
12,000 ft²

3. 1 gallon = 400 ft²
we have 12,000 ft²

$12,000 \div 400$
$12,000 \div 400 = $ **30 gallons**

4. Area of rectangle: 16×10 = 160 cm²

Area of triangle: (16×12)÷2 = 96 cm²

Total Area: 160 + 96 = **256 cm²**
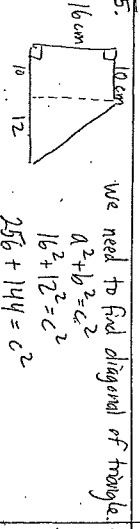
5. we need to find diagonal of triangle
$a^2 + b^2 = c^2$
$16^2 + 12^2 = c^2$
$256 + 144 = c^2$
$400 = c^2$
$\sqrt{400} = 20$

Now, add up sides -- 16 + 12 + 16 + 20 = **68 cm**

6.

Words	144	?
minutes	4	10
total	148	

$\dfrac{144}{4} = \dfrac{X}{10}$

1440 ÷ 4 = **380 words**

7. 7.5% of $12.40

$\dfrac{7.5}{100}$

12.40 ÷ 100 = .124
.124 × 7.5 = **.93**

.124
× 7.5
620
+8680
.9300

8.

	Boys	Girls	Total
	40	60	100
		18	?

$\dfrac{60}{100} = \dfrac{18}{X}$

1800 ÷ 60 = **30 students**

9. radius = 144 ft

Area = πr²
Area = $\dfrac{22}{7} \cdot 14 \cdot 14 = $ **314 ft**
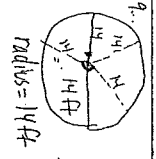
10. Circumference = 2·π·r or π·d

Diameter = 20 in

C = 3.14 · 20 = 62.80 ≈ **63 inches**

11.
$2x - 8 = 24$
$\quad +8 \; +8$
$2 \cdot x = 42$
$\div 2$
X = 21

12.
$\dfrac{1}{2}x + \dfrac{1}{3} = \dfrac{3}{4}$

$\dfrac{1}{3} = \dfrac{4}{12}$
$\dfrac{3}{4} = \dfrac{9}{12}$

$\dfrac{9}{12} - \dfrac{4}{12} = \dfrac{5}{12}$

$\dfrac{5}{12} \div 2 = \dfrac{10}{12} \div 2 = $ **$\dfrac{5}{6}$**

13. $3x + 2y - 1x + 1y = $ **$2x + 3y$**

14. $3(x+2) + 2(x+3)$
$3x + 6 + 2x + 6$
$5x + 12$

15. $2\dfrac{2}{3} \cdot 1\dfrac{1}{2} - 3\dfrac{3}{4}$

$\dfrac{8}{3} \cdot \dfrac{3}{2} - \dfrac{15}{4}$

$\dfrac{8 \cdot 3}{3 \cdot 2} = \dfrac{24}{6} = 4$

$4 - \dfrac{15}{4} = \dfrac{16}{4} - \dfrac{15}{4} = $ **$\dfrac{1}{4}$**

16. $\dfrac{a^2 b^3 c}{a b c} = \dfrac{a \cdot a \cdot b \cdot b \cdot b \cdot c}{a \cdot b \cdot c} = $ **$a b^2$**

17. $\dfrac{a \times 10^8}{4 \times 10^4} = \dfrac{a}{4} \times 10^4$

18. $(2 \times 10^5)(6 \times 10^7)$
$6 \times 1.2 = 7.2$
$10^5 \times 10^7 = 10^{12}$
7.2×10^{12}

19. V = L · W · H
V = 5 · 3.5 · 2
V = 35 ft³

20. $\dfrac{1}{2}(a+b) \cdot h$
$\dfrac{1}{2}(6+8) \cdot 4$
$\dfrac{1}{2}(14) \cdot 4$
$7 \cdot 4 = $ **28**

a = 6
b = 8
h = 4