

Math 40 Pre-Test

The following problems #1-16 should be solved without a calculator.

1. Perform the indicated operations.

a) $0 \div 5$

b) $9 \div 0$

2. Work the application and answer with a complete sentence.

Kinko's printed 850 booklets for a large company. Carissa and Nichelle's job is to box all of them. If they can fit 28 booklets in each box, how many boxes will they need for all the booklets?

3. Solve the following equations.

a) $2,094 + 3,516 + n = 8,522$

b) $35 \cdot n = 1,260$

4. Evaluate.

a) $24 \div 3(4 - 2)$

b) $\sqrt{4^2 + 3^2} - 3$

c) $7 + 5[28 \div (7 - 3)]$

5. List all the factors of 54.

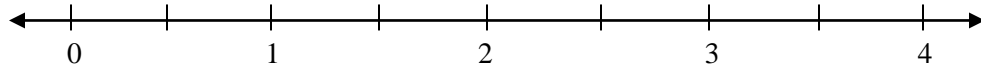
6. Determine which are prime, composite, or neither.

13, 52, 8, 27, 43, 0, 51, 59, 63, 1

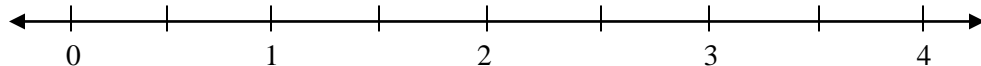
7. Find the Prime Factorization of 540 (use exponents if needed).

8. Locate each fraction or mixed number on a number line.

a) $\frac{2}{4}$



b) $\frac{5}{3}$



9. Evaluate and simplify completely.

a) $\frac{12 \div 2 + 10}{15 \div 5 - 1}$

b) $\frac{18}{3} \cdot 4 - \sqrt{16}$

10. Work each application and answer with a complete sentence.

a) In Dr. Silva's class, three-fifths of the students are men. If she has 45 students in her class, how many women are in the class?

b) Steve and Laprincess went to Kinko's to have a photo enlarged into a poster that is 45 inches high. The enlargement is $3\frac{3}{4}$ times the original size of the picture. How high is the original picture?

c) Mayra, Rita and Nicole got hungry after studying for their exam and decided to order a couple of pizzas. After they finished eating, $\frac{1}{4}$ of a pizza was left from one box and $\frac{1}{6}$ of a pizza was left from the other box. When the two boxes were combined, what fraction of a pizza did they have left over?

11. Evaluate. Simply the result if possible. Write any improper fraction answer as a mixed number.

a) $1\frac{5}{8} + 2\frac{1}{6} + 3\frac{2}{3}$

b) $5\frac{1}{10} - 3\frac{7}{20}$

12. Work each application and answer with a complete sentence.

Yesterday, Christopher's best long jump was 6 feet, $7\frac{2}{3}$ inches. Today he set a personal best by jumping 7 feet, $2\frac{1}{12}$ inches. By how many inches did Christopher surpass his previous best mark?

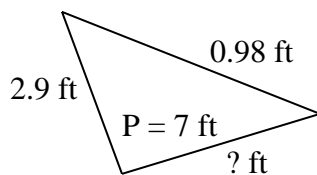
13. Fill in the blanks.

	<u>Decimal form</u>	<u>Mixed Number form</u>	<u>Written/Word form</u>
a)		$104\frac{37}{10,000}$	
b)	96.53		

14. Round \$3989.76412 to the nearest place value given.

- a) penny b) dime c) dollar

15. Given the information in the diagram, find the length of the third side of the triangle.



16. Divide.

$0.00091 \div 0.03$

The following problems #17-23 may be solved with a calculator.

17. Work each application and answer with a complete sentence.

- a) It took Jessica 3.5 hours to walk 13.3 miles. What was Jessica's average walking rate during that time?
 b) Ascencion needs to buy batteries. A pack of 8 Duracell batteries costs \$7.36, and a pack of 12 Energizer batteries costs \$11.40. If Ascencion wants to purchase the cheaper battery, which pack should she buy?

18. Work each application and answer with a complete sentence.

- a) To paint a wall, Scott charges \$6 for every 4 square feet of wall space. How much will Scott charge to paint 82 square feet of wall space?
 b) Julia's car used 12 gallons of gas to travel 246 miles. How many miles will Julia's car travel on 16 gallons of gas?

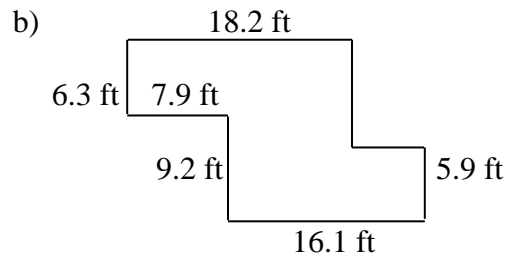
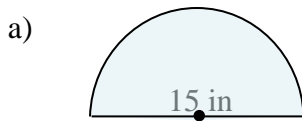
19. Fill in the boxes.

	decimal	fraction	percent
a)		$\frac{7}{2}$	
b)	0.082		
c)			0.04%

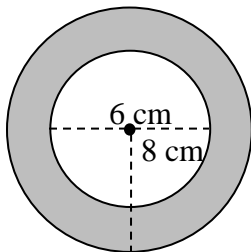
20. Work each application and answer with a complete sentence.

- 2.5% of the teachers in the North Unified School District have a doctorate degree (Ph.D.). If 8 of the teachers have a Ph.D., how many total teachers are there in the district?
- Charon is buying a pair of shoes that costs \$80. The sales tax rate in her state is 7.5%. How much will she pay at the cash register?
- This week at Moore's Department Store, wallets are discounted 80%. Gaby finds a wallet that originally costs \$189. What is the new price of the wallet?
- At the beginning of the semester, Dr. Montalvo's class had 42 students in class. Now, there are 27 students in class. What was the percent decrease in the number of students in class?
(If necessary, round the percentage to the nearest tenth.)

21. Find the Perimeter/Circumference and Area of the following shapes.



22. Find the Area of the shaded region.



23. Identify the mean, median, and mode. If necessary, round to the nearest tenth.

The number of push-ups that ten sixth-graders completed:
31, 15, 19, 7, 2, 6, 10, 14, 20, 13