Pre-Algebra Review
(Test Review)

1. Write the integer that best describes each situation.

A debt of $20

-20

3 seconds before lift off

-3

2. Name two integers that have the given absolute value.

14

$14, -14$

53

$53, -53$

3. Order the set of integers from least to greatest: 10, -20, 30, -30

$-30, -20, 10, 30$

4. The low temperature on Monday was 5 degrees F, the low temperature on Tuesday was -5 degrees F, and the low temperature on Wednesday was -1 degrees F. On which day did the lowest temperature occur? TUESDAY

5. Add or the subtract the integers

$-7 + 12$ $\quad 5$

$0 - (-7)$ $\quad 7$

$-10 + (-12)$ $\quad -22$

$-6 - 11$ $\quad -17$

6. Multiply or divide the integers

$-1 \cdot (-13)$ $\quad 13$

$-18 \div 3$ $\quad -6$

$-5 \cdot 6$ $\quad -30$

$-4 \div (-1)$ $\quad 4$

7. Mr. Scott wanted to write a check for $ 87. He noticed that he had only $79 in his checking account. What integer shows what Mr. Scott's checking account balance would have been if he had written the check? $79 - 87 = -8$

8. The price of a share of stock dropped $33 over a 5-day period. The change in price was the same on each of the 5 days. What was the change in price each day?

$$\frac{-33}{5} = -\$6.60$$

9. Simplify.

$9 + 3 \cdot 6 - 4$

$9 + 18 - 4$

23

$20 \div 2 - 24 \div 3$

$10 - 8$

2

10. Write each as an expression.

x less than 36 $36 - x$

Carolyn makes t batches of 12 cookies. How many cookies did she make?

$12t$

11. Evaluate each algebraic expression for the given value of the variable.

$-4 + 8t$ for $t = -5$

$-4 + 8(-5)$

$-4 + -40$

-44

$200 + k \div 9$ for $k = 63$

$200 + 63 \div 9$

$200 + 7$

207

12. Simplify each expression.

$(14 + 10) \div (2 - 6)$

$24 \div -4$

-6

$(4 - 7)(2 + 9)$

$(-3)(11)$

-33

13. Solve each equation.

$\frac{12y}{12} = \frac{-84}{12}$ $y = -7$

$m + (-15) = 30$

$+15 \quad +15$

$m = 45$

14. Solve the equation.

$8k - 11 = 13$

$+11 \quad +11$

$8k = 24$

$k = 3$

$\frac{3}{4}g + 7 = 37$

$-7 \quad -7$

$\left(\frac{4}{3}\right)\frac{3}{4}g = 30\left(\frac{4}{3}\right)$ $g = \frac{120}{3} = 40$

15. Linda had $15 in her coin bank. On her birthday, 5 relatives sent her money as a birthday gift. Each relative sent the same amount. She then had $115. How much money did Linda receive from each relative?

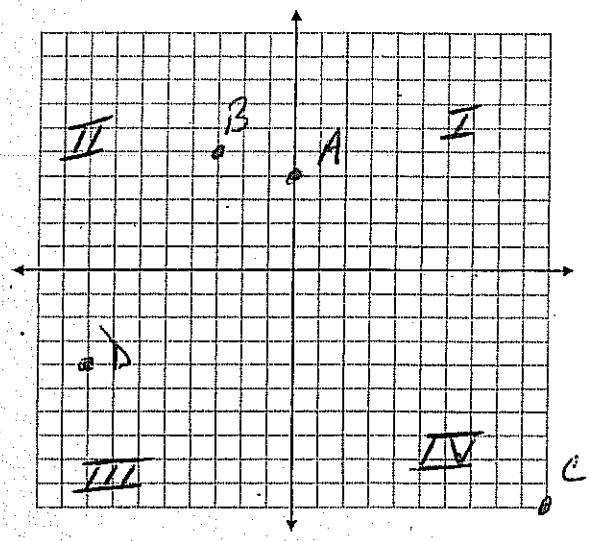
$15 + 5g = 115$

$-15 \quad -15$

$5g = 100$ $g = \$20$

16. Draw a graph and label the following points.

a. (0,4)
b. (-3, 5)
c. (10,-10)
d. (-8, -4)



17. Label the 4 quadrants in the graph above.

18. A city with streets that run north/south and east/west uses coordinates to identify locations of buildings. The unit of length is 1 city block. How many blocks must a taxi driver travel to get from a bus stop at (2, 5) to a house at (17, 25)?

$x \longrightarrow 17 - 2 = 15$

$y \longrightarrow 25 - 5 = 20$

$15 + 20 = 35$ BLOCKS

19. Write each rational number as a ratio of two integers.

$-3\frac{3}{4}$ $\frac{-15}{4}$ 0.55 $\frac{55}{100}$

20. Write fractions in simplest form.

$\frac{-15}{11} - \frac{7}{11}$

$-\frac{22}{11} = -2$

$4\frac{5}{6} - 2\frac{1}{6}$

$4\frac{4}{6} = 4\frac{2}{3}$

21. Write fractions in simplest form.

$\frac{-5}{8} \cdot \frac{7}{11}$

$-\frac{35}{88}$

$4\frac{5}{6} \div (-2\frac{1}{3})$

$\frac{29}{6} \div \left(-\frac{7}{3}\right)$

$\frac{29}{6} \cdot -\frac{3}{7} = -\frac{87}{42} = -\frac{29}{14}$

22. Solve each equation. SHOW WORK!

$t + (-1\frac{1}{2}) = -6\frac{1}{2}$

$+1\frac{1}{2} \quad +1\frac{1}{2}$

$t = -5$

$-0.25x = 2$

$-.25 \quad -.25$

$x = -8$

23. Write using exponents: 3·3·3·3·3·3 3^6

24. Write in standard form: 4^3 $4 \cdot 4 \cdot 4 = 64$

25. Evaluate each expression.

$4+6^3$

$4 + 216$

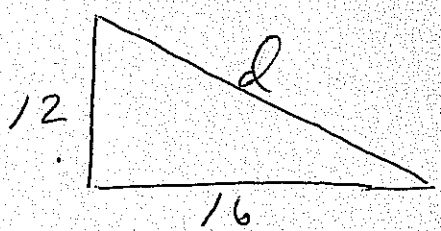
220

$(-8+5)^2$

$(-3)^2$

9

26. A courtyard that is 12 feet by 16 feet has a diagonal walkway. What is the length of the walkway?



$a^2 + b^2 = c^2$

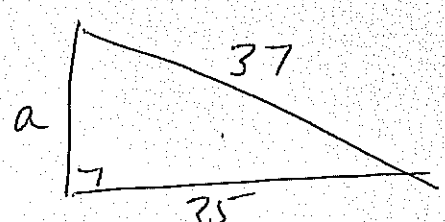
$12^2 + 16^2 = c^2$

$144 + 256 = c^2$

$400 = c^2$

$20 = c$

27. Find the missing length in a right triangle if the hypotenuse is 37 cm and one leg is 35 cm.



$a^2 + b^2 = c^2$

$a^2 + 35^2 = 37^2$

$a^2 + 1225 = 1369$

$-1225 \quad -1225$

$a^2 = 144$

$a = 12$ cm