

Math 0110 Exam Review 1
Sunday, Sept. 20, 3-5pm **Physics 114**

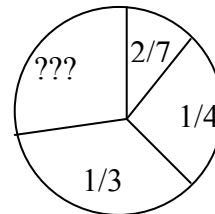
Donna Stohr, The Learning Center

Chapter 1: Sections 2,3,4 Chapter 2: Sections 1,2,3,4,5 Chapter 3: Section 1

- Express 1530 as a product of prime factors (or in prime factor form).
- Find the greatest common divisor of 30 and 72.
 - Find the least common multiple of 30 and 72.
 - Find the least common multiple of $(2^3)(3)(5^2)$ and $(2^2)(5)(7^2)$.
 - Find the greatest common factor of $(2^3)(3)(5^2)$ and $(2^2)(5)(7^2)$.
- Perform the operations and simplify:
 - $\frac{9}{16} - \frac{7}{18} - \frac{13}{24}$
 - $\frac{5}{2} - \frac{3}{2} \times \frac{8}{3} + \frac{1}{3}$
 - $\frac{2}{5}(x-1) - \frac{2-3x}{3}$.

- Evaluate the following: Express the answer as a reduced fraction.

- $\frac{-3[5-2(9-16)]}{12 \div 2 \times 3 - 3|4-5|^2}$
- $\frac{3-7-(7-3)}{15+30 \div 6 \cdot 2}$



- The circle to the right represents a whole, or 1. Determine the unknown fractional part of the circle. Express the answer as a reduced fraction.

- Find the value of the algebraic expression for the given values:

- $a + \frac{b}{c}$, when $a = \frac{1}{2}$, $b = \frac{2}{3}$, and $c = \frac{5}{3}$.
- $-\sqrt[3]{a} + \sqrt{b^3}$, when $a = 64$ and $b = 4$.

- Name the property illustrated (distributive, associative, commutative, additive identity, multiplicative identity, additive inverse, multiplicative inverse).

- $(ab)c = a(bc)$
- $5(x+3z) = 5x+15z$
- $7+0=7$

- True or False?
 - $15 - |-3| = 18$
 - $-(-3)^2 = -3^2$
 - The multiplicative inverse of a non-zero number equals the reciprocal of that number.

- Indicate which of the following are rational numbers.

- $\frac{5 \times 8 - 120 \div 3}{12}$
- $\sqrt[3]{2}$
- $25.123\overline{4}$
- $\frac{22}{\sqrt{121}}$
- $-\sqrt{\frac{36}{4}}$
- $\frac{2}{0}$

- Express using math symbols:

- The sum of 15 and three times a number is 8 less than the reciprocal of the number.
- Twice the difference of n and 7 is less than 12.

- Solve the equation for x : $2x + 5 = 3(x + 2) - x$.

- Solve the equation for x : $2(3x - 2) = 2 + 6(x - 1)$.

- Solve the equation for x : $\frac{x+5}{2} + \frac{1}{2} = 2x - \frac{x-3}{8}$.

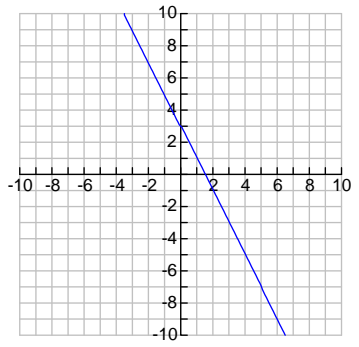
- The 3 tallest hospitals in the world are in London, Hong Kong and Chicago. These buildings have a total height of 1320 feet. The London hospital is 67 feet taller than the Chicago hospital, and the Hong Kong hospital is 47 feet taller than the Chicago hospital. Find the height of the London hospital.

- Joanne paid \$24.80 for a necklace including 7% tax. Let x be the tag price of the necklace. Write an equation that you could solve to determine the tag price of the necklace.

16. Of the 1,071 tornadoes that occurred during the year 2000, 23% occurred during the month of May. How many tornadoes didn't occur during May that year?
17. Solve the equation for the specified variable: $T = 3vs - 4ws + 5vw$; for v .
18. List the elements of the indicated set, given that $A = \{12, 14, 16, 18\}$ and $B = \{11, 12, 16, 17, 19\}$.
- a. $A \cap B$ b. $A \cup B$
19. Solve the following inequalities and state the solution set using interval notation:
- (a) $\frac{1-2x}{3} > 4$ (b) $3(x-1) \geq 3x-8$ (c) $2(x+2) - x < x-8$
20. Karin has scores of 7, 8, 6, and 10 on her weekly 10-point quizzes. Write an inequality to find the minimum score she can make on her next quiz to obtain an average quiz score of at least 8. Is it possible for her to obtain a quiz average of at least 8?
21. Solve the compound inequality: $-\frac{1}{2} \leq \frac{3x+1}{4} < 7$. Express the answer in interval notation.
22. Solve the compound inequality: $2x - 5 \geq 3$ or $-x + 4 > 2$. Express the answer in interval notation.
23. Solve the compound inequality: $2x - 5 \geq 3$ and $-x + 4 > 2$. Express the answer in interval notation.
24. In what quadrant is the point $(-2,6)$ located?
25. Graph the equation: $y = -2x + 3$.

KEY TO REVIEW QUESTIONS

1. $2 \cdot 3^2 \cdot 5 \cdot 17$ 2. a. GCD: 6; b. LCM: 360 c. LCM: $(2^3)(3)(5^2)(7^2)$ d. GCF: $(2^2)(5)$
3. a. $\frac{-53}{144}$ b. $\frac{-7}{6}$ c. $\frac{21x-16}{15}$ 4. (a). $\frac{-19}{5}$ (b) $-\frac{8}{25}$ 5. $\frac{11}{84}$
6. a. $\frac{9}{10}$ b. 4
7. a. assoc. ; b. distrib.; c. additive identity 8. F; T; T
9. a; c; d; e
10. a. $15 + 3x = \frac{1}{x} - 8$ b. $2(n-7) < 12$ 11. \emptyset 12. $(-\infty, \infty)$ 13. $\frac{21}{11}$
14. 469 ft 15. $x + .07x = 24.80$ 16. 825 tornadoes
17. $v = \frac{T+4ws}{3s+5w}$ 18. a. $\{12, 16\}$ b. $\{11, 12, 14, 16, 17, 18, 19\}$
19. a. $(-\infty, \frac{-11}{2})$ b. $(-\infty, +\infty)$ c. \emptyset
20. $\frac{31+x}{5} \geq 8$, yes. 21. $[-1, 9)$ 22. $(-\infty, 2) \cup [4, +\infty)$ 23. \emptyset
24. Quadrant II



25.