

math 001 online practice exam 3

1. *Simplify.* $2[-2(5a - 6) - (2 - 5a)]$
2. *Simplify.* $-[-(2a - b) - (a - b)]$
3. *Simplify.* $5x - (3 - 2x)$
4. *Simplify.* $(3x^5 - 2x^4 + 7x^3 + 8x - 6) - (4x^4 - 3x^3 + 7x^2 + 9x - 5)$
5. *Simplify.* a) $(3x + 5)(2x - 4)$ b) $(3x - 2)^2$
6. *Solve, and then check your solution.* $5(4x + 7) = 95$
7. *Solve, and then check your solution.* $7x + 3(2x - 4) = 18$
8. *Solve, and then check your solution.* $3x + 12 = 78$
9. *Solve, and then check your solution.* $8x + 17 - 3(2x - 4) = 3x + 7$
10. *Solve, and then check your solution.* $0 = 5(8 - 2x) - 3(4x - 9)$
11. *Solve, and then check your solution.* $(-2)(4x - 7) = -30$
12. Yesterday Robert studied for 265 minutes, broken into five study sessions interrupted by four ten minute breaks. How long does he study before taking a break?
13. Al has 96 coins, all nickels and dimes. Altogether the coins have a value of \$7.15. Determine the number of each type of coin that Al has.
14. There are 49 females and 42 males in attendance at a managerial meeting. What is the ratio of females to males?
15. *Reduce the ratios to lowest terms.* a) $6 : 18$ b) $2\frac{1}{3} : \frac{4}{5}$
16. *Reduce the ratios to lowest terms.* a) $3 \text{ lb} : 12 \text{ oz}$ b) $2 \text{ feet} : 9 \text{ inches}$
17. Five pints of antifreeze are poured into an empty four gallon car radiator. The radiator is then filled to the top with water. What is the ratio of antifreeze to water?
18. Which vehicle is most economical, a car that travels for 374 miles on 16.2 gallons of gas, or a car that travels 583 miles on 26.1 gallons?
19. The first nonstop transatlantic flight was made by Alcock and Brown in 1919. The 1,960 mile flight from Newfoundland to Ireland took 16 hours and 12 minutes. Find the average speed in miles per hour.
20. A pound of coffee costs \$2.32. What would you expect 10 oz to cost?
21. A dripping faucet wastes 0.21 pints in 16 minutes. How much water per hour is wasted?

22. A salesperson earns \$241 commission on sales of \$4,839. What is the percent commission?
23. An attorney represented 152 clients this year. Last year he represented 127. By what percent has his business increased?
24. A dress is on sale for \$48.99. This is a saving of 30% on the original price. What was the original price?
25. After a 35% price reduction, a set of luggage is on sale for \$156. What was the original price?