Homework 3/13/13

Translate each sentence into an equation.

1. Three times r less than 15 equals 6.
2. The sum of q and four times t is equal to 29.
3. A number n squared plus 12 is the same as the quotient of p and 4.
4. Half of j minus 5 is the sum of k and 13.
5. The sum of 8 and three times k equals the difference of 5 times k and 3.
6. Three fourths of w plus 5 is one half of w increased by nine.
7. The quotient of 25 and t plus 6 is the same as twice t plus 1.
8. Thirty-two divided by y is equal to the product of three and y minus four.
9. **FINANCIAL LITERACY** Samuel has \$1900 in the bank. He wishes to increase his account to a total of \$2500 by depositing \$30 per week from his paycheck. Write and solve an equation to find how many weeks he needs to reach his goal.
10. **MODELING** Miguel is earning extra money by painting houses. He charges a \$200 fee plus \$12 per can of paint needed to complete the job. Write and use an equation to find how many cans of paint he needs for a \$260 job.

Translate each sentence into a formula.

11. The perimeter of a regular pentagon is 5 times the length of each side.
12. The area of a circle is the product of π and the radius r squared.
13. Four times π times the radius squared is the surface area of a sphere.
14. One third the product of the length of the side squared and the height is the volume of a pyramid with a square base.

For Exercises 40–43, match each sentence with an equation.

A. $g^2 = 2(g - 10)$

B. $\frac{1}{2}g + 32 = 15 + 6g$

C. $g^3 = 24g + 4$

D. $3g^2 = 30 + 9g$

40. One half of g plus thirty-two is as much as the sum of fifteen and six times g.
41. A number g to the third power is the same as the product of 24 and g plus 4.
42. The square of g is the same as two times the difference of g and 10.
43. The product of 3 and the square of g equals the sum of thirty and the product of nine and g.
44. **FINANCIAL LITERACY** Tim's bank contains quarters, dimes, and nickels. He has three more dimes than quarters and 6 fewer nickels than quarters. If he has 63 coins, write and solve an equation to find how many quarters Tim has.