

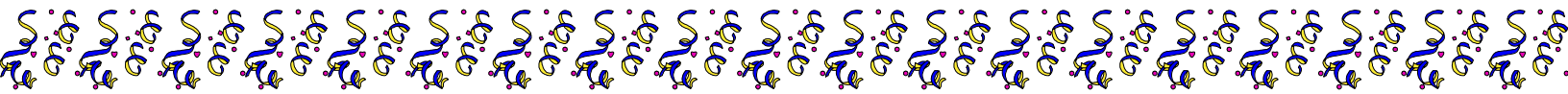
3. If the savings in a bank account can be modeled by the function $S(t) = 250(1.045)^t$. Which of the following is true?

- (1) The initial amount deposited was \$250 and the interest earned was 45%
- (2) The initial amount deposited was \$2.50 and the interest earned was 4.5%
- (3) The initial amount deposited was \$250 and the interest earned was 4.5%
- (4) The initial amount deposited was \$2.50 and the interest earned was 45%

4. If \$350 is placed in a savings account that earns 3.5% interest applied once a year, then how much would the savings account be worth after 10 years?

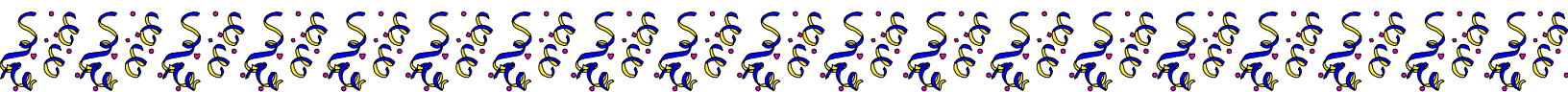
5. Tammy has a balance of \$5,620 in her savings account. She is moving this account to another bank that has advertised an interest rate of 6.5% per year. Which of the following equations would give Tammy's account worth, W , as a function of the number of years, y , it has been gaining interest.

- (1) $W = 5620(.65)^y$
- (2) $W = 5620(1.065)^y$
- (3) $W = 1.065y + 5620$
- (4) $W = 1.65y + 5620$



Classwork 6-6

1. \$325 is borrowed from a bank that charges 4% interest compounded annually. How much is owed after 7 years; 20 years?
2. A youth group has a yard sale to raise money for a charity. The group earns \$800 but decided to put its money in the bank for a while. Calculate the amount of money the group will have if:
 - a) Cool Bank pays compounded interest at a rate of 4%, but the youth group can only leave the money in for 3 years.
 - b) Hot Bank pays compound interest at a rate of 3%, but the youth group can leave the money in for 5 years.
 - c) Which bank is the better choice for their respective time restrictions, and how much more money will they receive by choosing this bank?
3. If Piper invested money 7 years ago with an annual interest rate of 1.95% compounded annually, and it is valued at \$12,575, how much money, to the nearest cent, did she initially invest?



4. Milton has his money invested in a stock portfolio. The value, $v(x)$, of his portfolio can be modeled with the function $v(x) = 30,000(0.78)^x$, where x is the number of years since he made his investment. Which statement describes the rate of change of the value of his portfolio?

- (1) It decreases 78% per year
- (2) It decreases 22% per year
- (3) It increases 78% per year
- (4) It increases 22% per year

5. The cost of airing a commercial on television is modeled by the function $C(n) = 110n + 900$, where n is the number of times the commercial is aired. Based on this model, which statement is true?

- (1) The commercial costs \$0 to produce and \$110 per airing up to \$900.
- (2) The commercial costs \$110 to produce and \$900 each time it is aired.
- (3) The commercial costs \$900 to produce and \$110 each time it is aired.
- (4) The commercial costs \$1010 to produce and can air an unlimited amount.

6. Solve for the solution to the following system graphically:

$$5x - 3y = -4$$

$$3x + 2y = 9$$

