

NAME: \_\_\_\_\_

1. 010908ia, P.I. A.A.9

The New York Volleyball Association invited 64 teams to compete in a tournament. After each round, half of the teams were eliminated. Which equation represents the number of teams,  $t$ , that remained in the tournament after  $r$  rounds?

- [A]  $t = 64(0.5)^r$       [B]  $t = 64(r)^{0.5}$   
[C]  $t = 64(1.5)^r$       [D]  $t = 64(-0.5)^r$

2. 060830ia, P.I. A.A.9

Kathy plans to purchase a car that depreciates (loses value) at a rate of 14% per year. The initial cost of the car is \$21,000. Which equation represents the value,  $v$ , of the car after 3 years?

- [A]  $v = 21,000(0.86)(3)$   
[B]  $v = 21,000(0.14)^3$   
[C]  $v = 21,000(0.86)^3$   
[D]  $v = 21,000(1.14)^3$

3. fall0719ia, P.I. A.A.9

Daniel's Print Shop purchased a new printer for \$35,000. Each year it depreciates (loses value) at a rate of 5%. What will its approximate value be at the end of the fourth year?

- [A] \$33,250.00      [B] \$27,082.33  
[C] \$30,008.13      [D] \$28,507.72

4. 080929ia, P.I. A.A.9

Cassandra bought an antique dresser for \$500. If the value of her dresser increases 6% annually, what will be the value of Cassandra's dresser at the end of 3 years to the *nearest dollar*?

- [A] \$590      [B] \$596  
[C] \$415      [D] \$770

5. 060935ia, P.I. A.A.9

A bank is advertising that new customers can open a savings account with a  $3\frac{3}{4}\%$  interest rate compounded annually. Robert invests \$5,000 in an account at this rate. If he makes no additional deposits or withdrawals on his account, find the amount of money he will have, to the *nearest cent*, after three years.

[1] A \_\_\_\_\_

[2] C \_\_\_\_\_

[3] D \_\_\_\_\_

[4] B \_\_\_\_\_

[3] 5,583.86, and appropriate work is shown.

[2] Appropriate work is shown, but one computational or rounding error is made.

[1] Appropriate work is shown, but two or more computational or rounding errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1]  $A = 5000(1 + 0.0375)^3$  or an equivalent equation, but no further correct work is shown.

or [1] 5,583.86, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[5] incorrect procedure. \_\_\_\_\_