Unit 2-6: Systems of Equations Application

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Provided:
   - Alex purchased 1 adult ticket and 2 student tickets for a total of $22.
   - Jen purchased 1 adult ticket and 3 student tickets for a total of $28.

What is the price of a student ticket?

Let \( a = \) cost of adult ticket
Let \( s = \) cost of student ticket

Write the two equations which could be used to solve this problem using elimination.

a. \( a + s = 22 \)
   b. \( 2a + s = 22 \)
   c. \( a + 3s = 28 \)
   d. \( 3a + s = 28 \)

2. A movie theater is selling only one size of popcorn and one size of soft drink.

   - Jason purchased 2 popcorns and 3 soft drinks for a total of $23.
   - Ann purchased 3 popcorns and 4 soft drinks for a total of $32.50.

How much does a single popcorn cost?

a. $4.00  
   b. $4.50  
   c. $5.00  
   d. $5.50
3. A company that sold fish for an aquarium had a special one weekend on tetras and angel fish.

- The store sold a total of 110 of those types of fish over the weekend.
- The tetras each sold for $0.40 and the angel fish each sold for $1.20. They made a total of $80 in selling those fish.

Which system of equations best represents this situation if \( t \) = the number of tetras and \( a \) = the number of angel fish.

a. \[
\begin{align*}
110a + 0.4t &= 80 \\
80a + 1.2t &= 110
\end{align*}
\]

c. \[
\begin{align*}
80a + 0.4t &= 110 \\
110a + 1.2t &= 80
\end{align*}
\]

b. \[
\begin{align*}
0.4t + 1.2a &= 110 \\
t + a &= 80
\end{align*}
\]

d. \[
\begin{align*}
t + a &= 110 \\
0.4t + 1.2a &= 80
\end{align*}
\]

4. There are two companies that sell mobile internet services for tablets.

- "Speedy Net" charges $20 each month plus $3 per Gigabyte of data.
- "Quick Connect" charges $30 each month plus $1 per Gigabyte of data.

Which of the graphs below correctly display this information in a graph?