Over and Over

Let's change quantities by a percentage several times.

16.1 The Phone for the Lowest Price

A phone is on sale. Which sale results in the lowest price? Explain your reasoning.

A. a $200 phone that is 35% off

B. a $200 phone for sale at 60% of its original price

C. a $150 phone for sale at 87.5% of its original price

D. a $140 phone that is 8.5% off

16.2 Two Saving Methods

Two people open bank accounts and deposit $1,000 each. Both bank accounts earn 7.5% interest every year.

- Kiran leaves $1,000 alone and withdraws the interest each year.
- Jada leaves the interest in the bank account with the $1,000.

How much money does each person have after 5 years? Explain.

16.3 Wild Sales

1. Tyler really wanted a $200 jacket he sees in a shop window on his way to school every day. On Monday he noticed a sign on the jacket that said, “20% off each day!” The fine print said, “Price is reduced by 20% today, and will be reduced by an additional 20% of the new price every day until the jacket is sold.” Tyler wondered if the jacket would be free on Friday. Diego does not think it will be free. Who do you agree with, and why?

2. Elena saw that a local store was having a sale of 50% off everything storewide. She had a coupon for 50% off the final price of any item at that store, and the coupon said, “Combine with any other offers!” She said, “I think I can get anything I want for free!” Priya said, “Not for free, but for 75% off, I think.” Who do you agree with, and why?

3. Andre and Clare are saving money. They each started with $20. Each week for 3 weeks, Andre increased his savings by 25%. Clare didn't increase her savings for 2 weeks, but in the third week, she increased her savings by 75% to keep up with Andre. Andre claims he raised more money. Clare says they are even. Who do you agree with, and why?

4. Jada and Lin are saving money. They each started with $50. Each week for 4 weeks, Jada increased her savings by 15%. After 2 weeks, Lin increases her savings by 30%, and after another 2 weeks, by 30% again. Jada says that they both increased their savings by 60% and have the same amount. Lin is not sure. Do they have the same amount of savings? If not, who has more savings? Explain your reasoning.