N-Q.A: Skills Practice Problems

1.1 #1-6

Determine the independent and dependent quantities in each scenario.

1. Selena is driving to visit her grandmother who lives 325 miles away from Selena's home. She travels an average of 60 miles per hour.
   Independent quantity: time (hours)
   Dependent quantity: distance (miles)

2. Benjamin works at a printing company. He is making T-shirts for a high school volleyball team. The press he runs can imprint 3 T-shirts per minute with the school's mascot.

3. On her way to work each morning, Sophia purchases a small cup of coffee for $4.25 from the coffee shop.

4. Phillip enjoys rock climbing on the weekends. At some of the less challenging locations he can climb upwards of 12 feet per minute.

5. Jose prefers to walk to work when the weather is nice. He walks the 1.5 miles to work at a speed of about 3 miles per hour.

6. Gavin works for a skydiving company. Customers pay $200 per jump to skydive in tandem skydives with Gavin.

2.1 #1-6

Identify the independent and dependent quantities in each problem situation. Then write a function to represent the problem situation.

1. Nathan is riding his scooter to school at a rate of 6 miles per hour.
   The distance Nathan travels depends on the time. Distance, D, is the dependent quantity and time, t, is the independent quantity.
   $D(t) = 6t$

2. Sophia is walking to the mall at a rate of 3 miles per hour.

3. Mario is stuffing envelopes with invitations to the school's Spring Carnival. He stuffs 5 envelopes each minute.

4. Shanise plays on the varsity soccer team. She averages 4 goals per game.

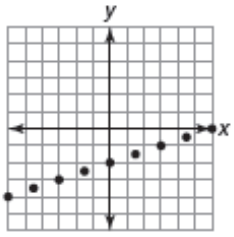
5. The football booster club sells hot chocolate during the varsity football games. Each cup of hot chocolate costs $2.

6. The basketball booster club sells t-shirts at the varsity basketball games. Each t-shirt costs $12.

1.2 #7-12

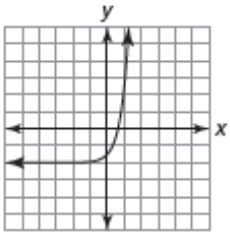
Determine whether the graph is discrete or continuous.

7.



The graph is discrete.

8.



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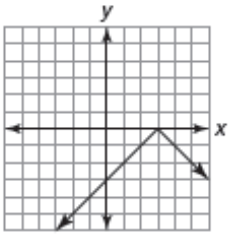

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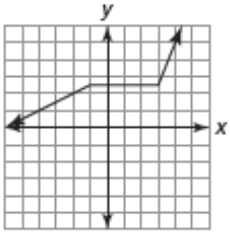

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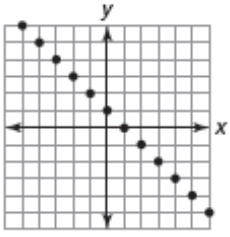

12.