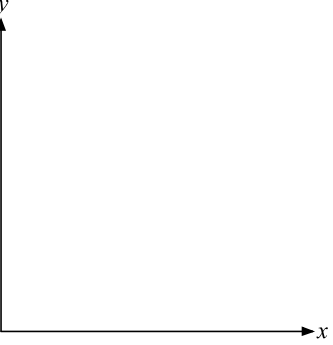
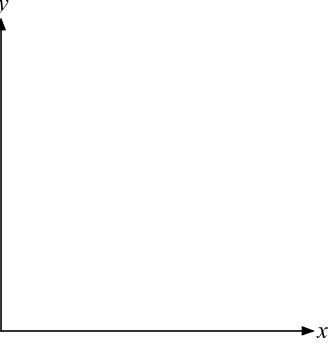
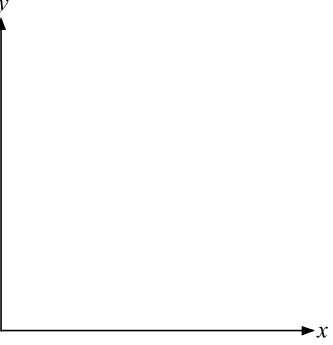
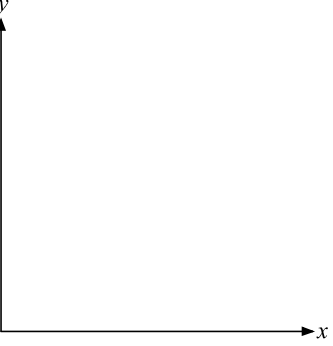


Another Four Situations

1. Sketch a graph to model each of the following situations.
Think about the shape of the graph and whether it should be a continuous line or not.

<p>A: Photographer</p> <p>For each 'shoot' a photographer charges a fixed fee for expenses, then a fixed amount for each hour (or part of an hour.)</p> <p>x = the time a 'shoot' takes in hours.</p> <p>y = the total amount the photographer charges.</p>	
<p>B: Football</p> <p>In a football league, each team plays all other teams twice.</p> <p>x = the number of teams.</p> <p>y = the number of games played by one team.</p>	
<p>C: Cup of coffee</p> <p>A cup of coffee cools in a warm diner.</p> <p>x = the time that has elapsed in minutes.</p> <p>y = the temperature of the coffee in degrees Celsius.</p>	
<p>D: Saving up</p> <p>Tanya saves a fixed amount each week until she has enough money in the bank to buy a coat.</p> <p>x = the amount saved each week.</p> <p>y = the time that it takes Tanya to save enough for the coat.</p>	

2. The formulas below are models for the situations.

Which situation goes with each formula?

Write the correct letter (A, B, C or D) under each one.

$$y = 20 + 70 \times (0.3)^x$$

$$y = \frac{100}{x}$$

$$y = 2x - 2$$

$$y = 50(1 + x)$$

Situation

Situation

Situation

Situation

3. Answer the following questions using the formulas.
Under each answer show your reasoning.

a. How much will the photographer charge for a 7-hour 'shoot'?

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b. If there are 20 teams in the league, how many games will each team play?

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c. What will be the temperature of the coffee after 3 minutes?

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d. If Tanya saves \$5 a week, how long will it take her to save for the coat?

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