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Mrs. Lafferty

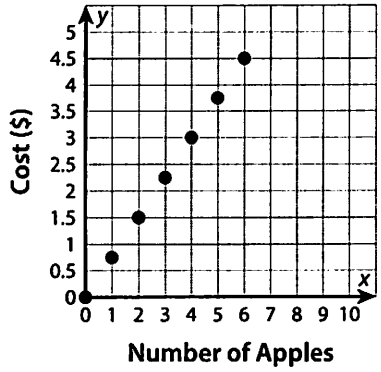
8th Grade

Day 6

Interpreting Graphs of Proportional Relationships

➤ **The graph shows the cost of apples at a local market. Use the graph to answer problems 1–3.**

1. What is the cost of 1 apple and of 3 apples? How do you know?

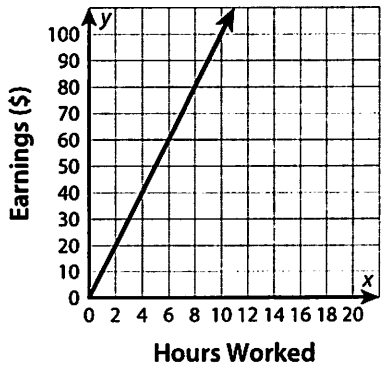


2. What does the point (0, 0) represent in this context?

3. What does the point (2, 1.5) represent in this context?

➤ **The graph shows Manuela's earnings for the number of hours she spends tutoring. Use the graph to answer problems 4 and 5.**

4. How much does Manuela earn for each hour of tutoring? Explain.

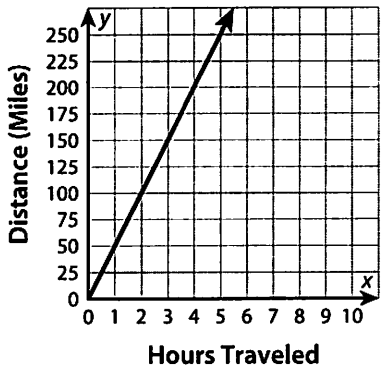


5. Write an equation that shows the relationship between Manuela's earnings, y, and hours, x.

Day 6

Interpreting Graphs of Proportional Relationships *continued*

➤ **The graph shows the distance Jason's family traveled on a recent road trip. Use the graph to answer problems 6–8.**

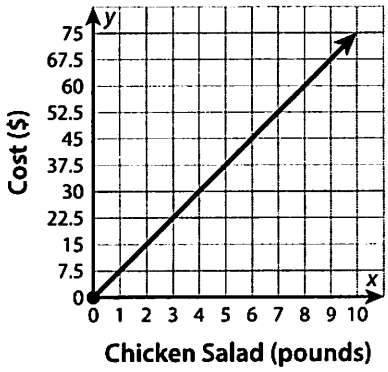


6 What is the constant of proportionality? Explain how you know.

7 Identify and interpret one other point on the graph.

8 Write an equation that models the distance, *d*, traveled in *t* hours.

➤ **The graph shows the cost per pound of chicken salad. Use the graph to answer problems 9 and 10.**



9 Randy claims that he can purchase 3.5 pounds of chicken salad for $23.50. Is he correct? Explain.

10 Explain how you can determine how much chicken salad may be purchased for $52.50.

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Day 7

Recognizing Graphs of Proportional Relationships

➤ **Circle all the problems with graphs that do NOT represent a proportional relationship. For the problems that are circled, explain why the graphs do not represent a proportional relationship.**

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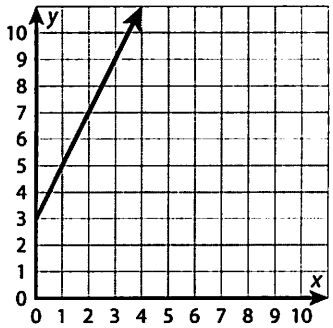

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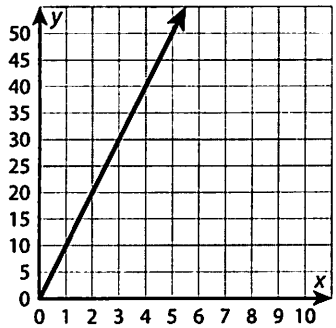

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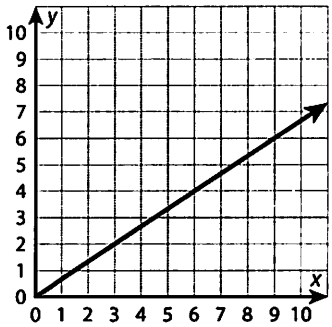

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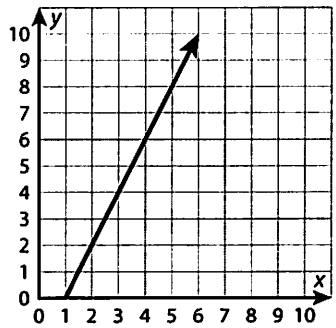

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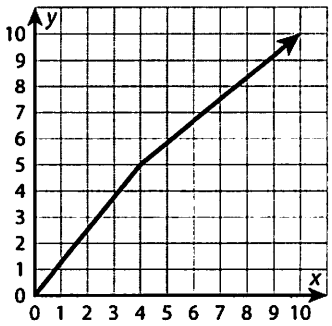

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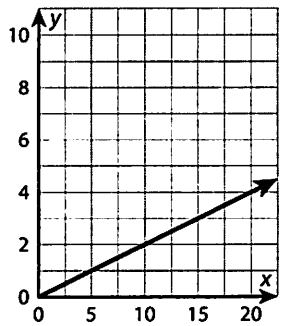

Day 7

Recognizing Graphs of Proportional Relationships *continued*

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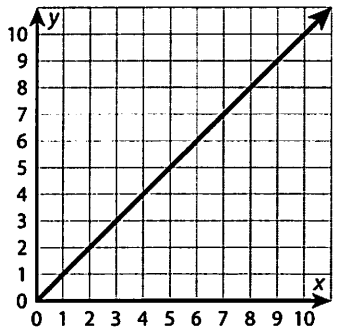

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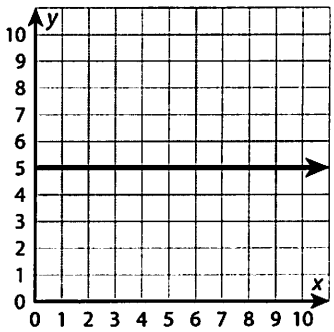

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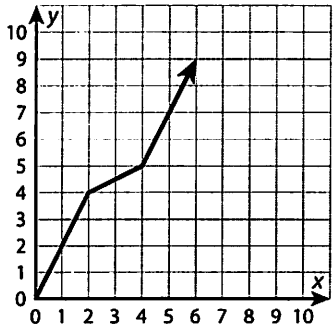

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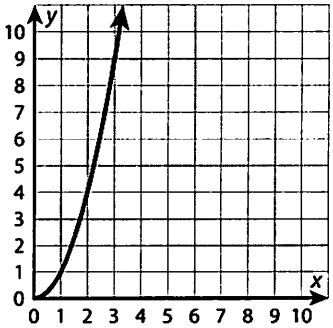

11 Without analyzing specific points on a graph, explain how you know whether a graph shows a proportional relationship.

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Day 8

Solving Multi-Step Ratio Problems

➤ **Solve each problem.**

1. At The Green House of Salad, you get a $1 coupon for every 3 salads you buy. What is the least number of salads you could buy to get $10 in coupons?

_____

2. Kim orders catering from Midtown Diner for $35. She spends $5 on a large order of potato salad and the rest on turkey sandwiches. Each sandwich is $2.50. How many sandwiches does Kim buy?

_____

3. Molly and Liza are exercising. Molly does 10 push-ups at the same time as Liza does 15 push-ups. When Molly does 40 push-ups, how many push-ups does Liza do?

_____

4. A shark swims at a speed of 25 miles per hour. The shark rests after 40 miles. How long, in minutes, does the shark swim before resting?

_____

5. Ali and Janet are selling gifts at a local craft show. For every bar of soap that Ali sells, she earns $5. For every mug that Janet sells, she earns twice as much as Ali. Ali sells 5 bars of soap, and Janet sells 7 mugs. How much money did they make altogether?

_____

6. Ted is making trail mix for a party. He mixes $1\frac{1}{2}$ cups of nuts, $\frac{1}{4}$ cup of raisins, and $\frac{1}{4}$ cup of pretzels. How many cups of pretzels does Ted need to make 15 cups of trail mix?

_____

7. The ratio of chaperones to students on a field trip is 2 : 7. There are 14 chaperones on the field trip. In all, how many chaperones and students are there?

_____

8. Dayren is driving to visit family. She drives at an average of 65 miles per hour. She drives 227.5 miles before lunch and then 97.5 miles after lunch. How many hours did she spend driving?

_____

Day 9

Solving Problems Involving Multiple Percents

➤ **Solve each problem.**

1. A chair's regular price is $349. It is on clearance for 30% off, and a customer uses a 15% off coupon after that. What is the final cost of the chair before sales tax?

2. A calculator is listed for $110 and is on clearance for 35% off. Sales tax is 7%. What is the cost of the calculator?

3. Cara started working for $9 per hour. She earns a 4% raise every year. What is her hourly wage after three years?

4. A factory manufactures a metal piece in 32 minutes. New technology allowed the factory to cut that time by 8%. Then another improvement cut the time by 5%. How long does it take to manufacture the piece now? Round your answer to the nearest minute.

5. An apartment costs $875 per month to rent. The owner raises the price by 20% and then gives a discount of 8% to renters who sign an 18-month lease. How much less do renters who sign an 18-month lease pay per month to rent the apartment?

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Day 9

Solving Problems Involving Multiple Percents *continued*

6 Damon buys lumber worth $562. He gets a 20% contractor's discount. The sales tax is 6%. His credit card gives him 2% off. How much does he pay?

7 Cindy is shopping for a television. The original price is $612. Store A has the television on clearance for 30% off. Store B has it on clearance for 25% off, and Cindy has a 10% off coupon to use at Store B. At which store will she pay less? How much less?

8 John goes to a restaurant and has a bill of $32.57. He uses a 10% off coupon on the cost of the meal. The tax is 8%. He leaves a tip of 18% on the amount before the coupon or tax is applied. How much does he spend?

9 Explain which situation will give you the best price: a discount of 15% and then 10% off that amount, a discount of 10% and then 15% off that amount, or a discount of 25%.

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Day 10

Solving Problems Involving Percent Change

➤ **Find the percent change and tell whether it is a percent increase or a percent decrease.**

1. Original amount: 20
   End amount: 15

   _____

2. Original amount: 30
   End amount: 45

   _____

3. Original amount: 625
   End amount: 550

   _____

4. Original amount: 320
   End amount: 112

   _____

5. Original amount: 165
   End amount: 222.75

   _____

6. Original amount: 326
   End amount: 423.80

   _____

7. Original amount: 27
   End amount: 38.61

   _____

8. Original amount: 60
   End amount: 70.02

   _____

9. How do you know when a situation involves a percent increase or a percent decrease?

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