Name Date

Practice A

10.4

Use a tree diagram to find the sample space and the total number of possible outcomes.

1.

|  |  |
| --- | --- |
| Pet | |
| Animal | Hamster, Guinea Pig, Snake |
| Name | Lucky, Shadow, Smokey, Max |

2.

|  |  |
| --- | --- |
| Ice Cream | |
| Cone | Waffle, Sugar |
| Flavor | Chocolate, Vanilla, Strawberry |

Use the Fundamental Counting Principle to find the total number of possible outcomes.

3.

|  |  |
| --- | --- |
| Car | |
| Transmission | Automatic, Manual |
| Doors | 2-door, 4-door |
| Color | Red, Blue, Black, White |

|  |  |
| --- | --- |
| Pizza | |
| Size | Small, Medium, Large |
| Crust | Thin, Thick, Regular |

4.

5. You are taking a true-false test that has 10 questions. Assuming you answer every question, in how many different ways can the test be completed?

6. A game system allows players to design a personal picture. Each picture   
is designed by choosing from male or female, 8 face shapes, 48 eyes,   
12 noses, 24 mouths, and 82 hair styles. How many different pictures are possible?

Name Date

Practice B

10.4

Use a tree diagram to find the sample space and the total number of possible outcomes.

1.

|  |  |
| --- | --- |
| Vacation | |
| Destination | Amusement Park, Zoo, Beach |
| Transportation | Car, Plane |

|  |  |
| --- | --- |
| Game | |
| Coin | Quarter, Dime, Nickel, Penny |
| Card | King, Queen, Jack |

2.

Use the Fundamental Counting Principle to find the total number of possible outcomes.

|  |  |
| --- | --- |
| Computer | |
| Hard Drive | 200 GB, 400 GB |
| Monitor | 17-inch, 20-inch, 22-inch, 24-inch |

3.

|  |  |
| --- | --- |
| Sandwich | |
| Bread | Italian, Wheat |
| Meat | Ham, Roast Beef, Salami |
| Cheese | American, Provolone, Swiss |

4.

5. You need to hang seven pictures in a straight line.

a. In how many ways can this be accomplished?

b. If the picture of your great-grandfather must be in the middle, how many ways can the seven pictures be hung?

6. A license plate must contain two letters followed by four digits. How many license plates are possible? If the rule changed to five digits instead of four digits, how many more license plates would be possible?

