

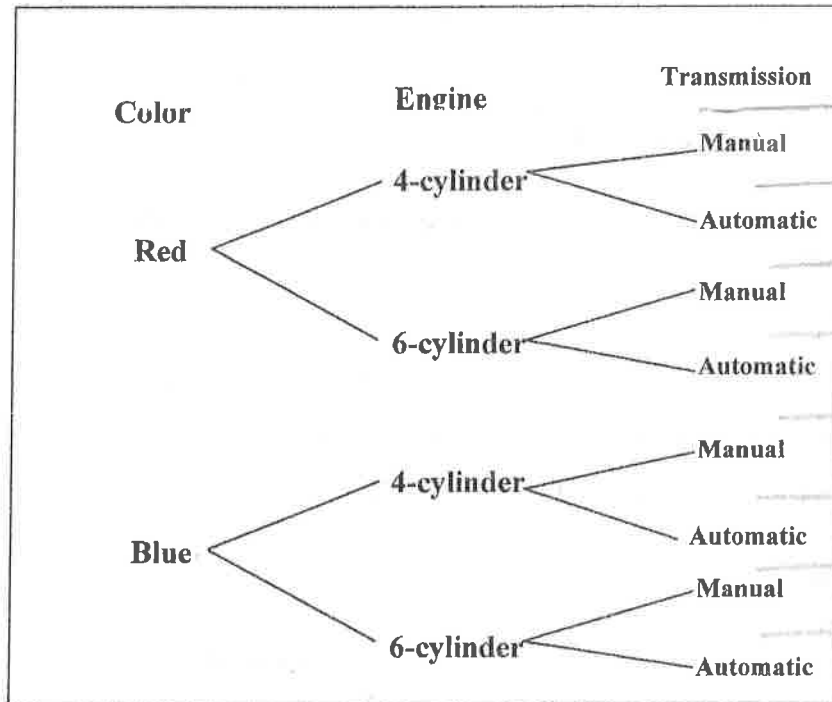
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class: \_\_\_\_\_

## Probability and Compound Events Worksheet

An automobile dealer has cars available with the combinations of colors, engines, and transmissions indicated in the following tree diagram. A selection is made at random.



Question.

	1	2	3	4
Red 4-cylinder Manual	✓		✓	
Red 4-cylinder Automatic				
Red 6-cylinder Manual	✓			
Red 6-cylinder Automatic				
Blue 4-cylinder Manual	✓	✓	✓	
Blue 4-cylinder Automatic				
Blue 6-cylinder Manual	✓	✓		
Blue 6-cylinder Automatic				✓

1. What is the probability of selecting a car with manual transmission?  
 $\frac{4}{8} = 50\% = \frac{1}{2}$
2. What is the probability of selecting a blue car with manual transmission?  
 $\frac{2}{8} = 25\% = \frac{1}{4}$
3. What is the probability of selecting a car with a 4-cylinder engine and a manual transmission?  
 $\frac{2}{8} = 25\% = \frac{1}{4}$
4. What is the probability of selecting a blue car with a 6-cylinder engine and an automatic transmission?  
 $\frac{1}{8} = 12.5\%$

$$\frac{1}{8} = 12.5\%$$

Bill, Raul, and Joe are in a bicycle race. If each boy has an equal chance of winning, find each probability. Draw a tree diagram to answer each question.

14. Joe wins the race.  $\frac{2}{6} = \frac{1}{3} = 33\%$

15. Raul finishes last.  $\frac{2}{6} = \frac{1}{3} = 33\%$

16. Joe, Raul, and Bill finish first, second, and third, respectively.

$\frac{1}{6} = 17\%$

Adam's class set up a lottery with two-digit numbers. The first digit is a number from 1 to 4. The second digit is a number from 3 to 8. Draw a tree diagram to answer each question.

17. What is the probability that 44 was the winning number?

$\frac{1}{24} = 4\%$

18. What is the probability that a number with a 2 in it wins?

$\frac{6}{24} = \frac{1}{4} = 25\%$

