

**Write an algebraic equation and use it to solve the problem.**

- 1) A college student earned \$7900 during summer vacation working as a waiter in a popular restaurant. The student invested part of the money at 10% and the rest at 8%. If the student received a total of \$708 in interest at the end of the year, how much was invested at 10%? 1) \_\_\_\_\_
- 2) A beverage wholesaler wants to create a new punch. He will mix fruit juice worth \$3 a gallon and rum worth \$8 a gallon. He wants to obtain 145 gallons worth of punch worth \$5 a gallon. How much of each beverage should he use? 2) \_\_\_\_\_
- 3) Five friends drove at an average rate of 55 miles per hour to a weekend retreat. On the way home, they took the same route but averaged 75 miles per hour. What was the distance between home and the retreat if the round trip took 10 hours? 3) \_\_\_\_\_
- 4) Julie and Eric row their boat (at a constant speed) 40 miles downstream for 4 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 10 hours. Find the rate of the current. 4) \_\_\_\_\_
- 5) A tour group split into two groups when waiting in line for food at a fast food counter. The first group bought 8 slices of pizza and 4 soft drinks for \$36.12. The second group bought 6 slices of pizza and 6 soft drinks for \$31.74. How much does one slice of pizza cost? 5) \_\_\_\_\_
- 6) The width of a rectangle is 6 kilometers less than twice its length. If its area is 80 square kilometers, find the dimensions of the rectangle. 6) \_\_\_\_\_
- 7) A baker can decorate the day's cookie supply four times as fast as his new assistant. If they decorate all the cookies working together in 24 minutes, how long would it take for each of them to decorate the cookies working individually? 7) \_\_\_\_\_

**Solve.**

- 8) A rectangular park is 30 km long and 5 km wide. How long is a pedestrian route that runs diagonally across the park? 8) \_\_\_\_\_

## Answer Key

Testname: MATH 80FINAL EXAM WORD PROB

- 1) \$3800
- 2) He should mix 87 gallons of juice with 58 gallons of rum.
- 3)  $317\frac{4}{13}$  miles
- 4) 3 mph
- 5) \$3.74 per slice of pizza
- 6) length = 8 km, width = 10 km
- 7) Baker: 30 minutes; assistant: 120 minutes
- 8)  $5\sqrt{37}$  km