

Linear Functions PreTest**Numeric Response**

1. The table below shows the elevation, in feet above sea level, of a scout troop hiking up the side of a mountain at different times. The scout troop is gaining about 3 feet of elevation for each minute of hiking. If the troop continues to hike at this rate, at what elevation will they be at 6:30 P.M.? Express your answer in feet above sea level.

Time	Elevation
4:15 P.M.	790 ft
5:25 P.M.	1,000 ft

Short Answer

The following table shows how many calories a person will burn when doing the activity for the time specified.

Activity (speed)	Calories per hour
Hiking (4 miles per hour)	475
Swimming (3 miles per hour)	440

2. Refer to the above table of activities and calories. Approximately how many minutes must a person hike at this rate to burn 1,000 calories?

3. Refer to the above table of activities and calories. If Aikiko swims for 113 minutes, approximately how many calories does she burn?

Name: _____

ID: A

4. A bathtub was filled with 40 gallons of water when the drain was pulled to empty the tub. The table shows how much water was left in the tub at certain times since the plug was pulled. Assuming the tub drains at a constant rate, about how many minutes will it take until it is empty? Round your answer to the nearest tenth of a minute if necessary.

Bath Tub Drain	
Time (seconds)	Amount (gallons)
0	40
45	34.6

5. A local computer store sells computers for \$299. The store makes a profit of \$60 for each computer sold. If the store made a monthly profit of \$1,440, how much money did it take in during the month?
6. Linda drove her fishing boat into a large cove and dropped the anchor in 44 feet of water. If the anchor descends at a constant rate of 3.1 feet per second, how long will it take for the anchor to hit the bottom of the lake? Round your answer to the nearest tenth of a second if necessary.
7. Carrie can drive her car 66 miles on 3 gallons of gasoline. At this rate, how far can she drive on a full tank of 16 gallons?

8. A team of biologists from the Division of Natural Resources wants to estimate the population of deer in a county. To do so, they capture and tag a certain number of deer in the county and then release them back into the forest. One month later, the team recaptures a number of deer from county forests and observes how many of them are tagged. This information is contained in the table below. The biologists assume that the ratio of the number of tags observed to the number of deer recaptured is proportional to the ratio of the number of deer originally tagged to the total population. Use this information to estimate the total population of deer in the county.

Deer Population Estimate	
Number Captured	Number Tagged
40	40
Number Recaptured	Tags Observed
50	3

9. Tyrone works for the Department of Transportation as a traffic flow specialist. This afternoon he is recording the number of cars that travel through a busy intersection during rush hour. During the first 21 minutes of recording, he has observed 480 cars passing through the intersection. If this rate continues, estimate the number of cars that will travel through the intersection during the 2-hour busy period.
10. Beau and his classmates are holding a car wash to raise money for a trip to England next summer. During the first 32 minutes, they have washed a total of 5 cars. If the class continues to wash cars at this rate, about how many will they have washed after 9 hours?



Name: _____

ID: A

11. Leslie spent \$20 to join a photography club. As a member of the club, she can get 4 rolls of film developed for \$18. It would cost \$6.00 to get 1 roll of film developed if she was not a member. How many rolls of film will Leslie have to get developed in order to recover the \$20 cost of membership?

Linear Functions PreTest Answer Section

NUMERIC RESPONSE

1. 1195

SHORT ANSWER

2. 126
3. 829
4. 5.6 minutes
5. \$7,176
6. 14.2 seconds
7. 352 miles
8. about 667 deer
9. about 2,880 cars
10. about 90 cars
11. 14 rolls of film