

NAME _____

DATE _____

Module 5 Solving Linear Inequalities of One Variable
Lesson 7 Solving Problems Using Inequalities of One Variable

additional practice

Solve.

1. A number, n , decreased by 12 is less than -7 . What are the possible values of the number?

2. A number, j , divided by 10 is greater than 2. What are the possible values of the number?

3. Clara can invite at most 75 people to a party. She has invited 21 people from her Girl Scout Troop. How many more people can Clara invite?

4. Xavier earned no more than \$1000 last week. If he earns a base pay of \$400 each week as well as a commission of 12% of all sales he makes, what is the greatest possible value of the merchandise he sold?

5. Ferd pays 25% of his monthly salary in taxes. Ferd earns at least \$675 each month after taxes are taken from his paycheck. What is the minimum amount Ferd earns in a month **before** taxes are taken away?

6. The perimeter of a triangular garden can be no more than 75 meters. Two sides of the garden are 33 meters long. What is the longest possible length for the third side?

7. The sum of three consecutive even integers is no less than 42. What are the least possible values for the integers?

8. A pitcher holds 24 oz. of a punch that contains 10% orange juice. What is the minimum amount of pure orange juice that must be added to the punch so that it contains at least 20% orange juice?

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9. At noon, Shelby leaves her house and drives 50 mph to her grandmother's house. Her brother, Swayze, leaves at 12:30 P.M. and drives 55 mph. What is the maximum length of time after Shelby leaves that Shelby is at least 15 miles ahead of Swayze?

10. The measure of angle A is equal to $p + 60$ degrees while the measure of angle B is equal to $p - 25$ degrees. If the sum of the measures of the two angles is more than 135 degrees, what are the possible measures of angle B?

11. According to a recent survey, 48% of the citizens in a town are in favor of building a children's museum. If at least 16,200 citizens are in favor of building the museum, what is the smallest possible number of people that live in the town?

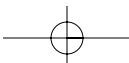
12. A package can be at most 100 lbs. to be shipped by Speed-E Mail. What is the minimum amount of weight that must be removed from a 150 pound package so that it can be shipped by Speed-E Mail?

13. According to some dietary guidelines, no more than 30% of the calories a person consumes should be from fat. If each fat gram contains 9 calories, what is the maximum number of grams of fat that should be consumed in 1,800 calorie diet?

14. Jose earns \$12.75 per hour. Each month he pays 20% of his salary in taxes and a set fee of \$50 for insurance. What is the minimum number of hours Jose needs to work so that his pay after taxes and insurance is at least \$866 per month?

15. Kyle pays \$20 each month for a membership to a gym, and he pays \$40 per hour for personal training from a gym expert. If Kyle can spend no more than \$110 in a month on gym fees, what is the greatest number of hours of personal training he can receive?

16. Each bus that takes members of the pep rally club to football games can hold 24 students. The number of club members that drive themselves to games is 350. If over 500 students will attend the football game, what is the minimum number of buses needed?



17. Angle C is an obtuse angle whose measure is 6 more than 3 times the measure of angle D . What are the possible values for the measure of angle D ?

19. The sum of a number, m , and 50 is less than 50. What are the possible values for the number?

18. At a recent 5K run, 40% of the runners received t-shirts. The race had 300 runners who registered before the day of the race, and a number of runners that registered the day of the race. If the number of t-shirts given to runners was no less than 180, what is the minimum number of runners that registered the day of the race?

20. Three friends raced as a team in a mountain bike race. They finished in consecutive order. Their team score was found by adding their finishing place. If the team score was more than 18, what was the best possible place for any member of the team?



