

Translate Word Problems Examples (3-1), (3-2), (4-5), (4-6), (4-7)

EXAMPLES: (3-1) one-step equations

1. A number increased by seven is twenty-four.
2. A number decreased by two is nineteen.
3. Two times a number is forty-six.
4. A number divided by five is three.
5. Eight more than a number is ten.
6. A number increased by three is twelve.
7. Three less than a number is ten.
8. Six times a number is twenty-four.
9. The quotient of a number and 8 is three.
10. Twice a number is eighteen.

Examples (3-2) two-step equations

1. Four times a number increased by three is fifteen.
2. Ten increased by twice a number is eighteen.
3. Two times a number and 3 is sixteen.
4. A number divided by five decreased by two is negative thirteen.
5. The quotient of a number and two increased by eight is negative three.
6. The sum of a number times five and nine is negative twenty-one.
7. Five increased by the quotient of a number and three is ten.
8. The opposite of a number increased by two is five.

Examples (4-5 & 4-6) one-step inequalities

1. A number decreased by seven is at least two.
2. The sum of seven and a number is more than thirteen.
3. A number decreased by three is greater than six.
4. Three times a number is less than twelve.
5. The quotient of a number and four is at most one.
6. A number divided by eight is more than seven.
7. The product of a number and three is at least twelve.
8. Eight times a number is less than sixteen.

Examples (4-7) two-step inequalities

1. Three times a number increased by twelve is less than eighteen.
2. The sum of fifteen and four times a number is greater than negative one.
3. Five times a number decreased by three times the same number is more than six.
4. Seven is less than twice a number increased by thirteen.
5. Three times a number decreased by eight is less than negative eight.
6. One-half a number decreased by one-fourth is at least two.
7. A number times three decreased by twelve is at most negative fifteen.

Real-life Applications: (3-1), (3-2), (4-5), (4-6), (4-7)

Examples:

1. The perimeter of an equilateral triangle is 25.5 cm. How long is each side?
2. Joe ran a 5 mile race in 45 minutes. What was his average time?
3. The sum of Juanita's age and Sara's age is 33 yrs. If Sara is 15 years old, how old is Juanita?
4. The diameter of Jupiter is 88,000 mi. This is about 11.1 times the diameter of the Earth. What is the diameter of the Earth?
5. The Postal Service charges \$.32 for the first ounce to mail a first class letter. It charges \$.23 for each additional ounce. It costs \$1.01 to mail your letter. How many ounces did your letter weigh?
6. Suppose you make \$126 selling popcorn. If your expenses were \$22.50, how many \$1.50 bags of popcorn did you sell?
7. It will take at least 360 points for Kiko's team to win the math contest. The scores for Kiko's teammates were 94, 82, and 87, but

one of Kiko's teammates lost 2 points for an incorrect answer. How many points must Kiko get for her team to win the contest?

8. Pat is on a diet and wants to lose more than 5 lb. So far he has lost 2 lb. How many more pounds must he lose?

9. Suppose you worked 18 hours last week. Your pay was at least \$111.60. What was your hourly rate of pay?

10. The physics club is going on a field trip. They will be riding in vans that hold 7 people. At least 30 people will be going on the field trip. What is the least number of vans needed to make the trip?

11. Tickets to a museum cost \$5 for adults and \$2.50 for children. There are five adults in the group. The total cost for the group was no more than \$57.50. What is the greatest possible number of children in the group?

12. Suppose it costs \$5 to enter a carnival. Each ride costs \$1.25. You have \$15 to spend at the carnival. What is the greatest number of ride tickets you can purchase?

13. Suppose $\angle A$ and $\angle B$ are complementary angles (their sum is 90°). If the measure of $\angle A$ is 46° , what is the measure of $\angle B$?