Math 070
Equations, Inequalities, and Problem Solving Worksheet

Simply:

1. 2(6x – 1) – (x – 6)

Write the phrase as a expression and simplify:

2. The sum of three times a number, -1, five times a number, and –12.

Solve for x:

3. 18x – 10 = 19x

4. –5(x + 1) + 4(2x – 3) = -4(x - 4) – 10

5. –10y + 15 = 55

6. .07x + 2.63 = 2.5562

7. 4(2 + x) + 1 = 6x – 3(x – 2)

Write as and expression and solve:

8. The sum of four times a number and 14 is equal to the difference of 5 times a number and – 17.

Solve:

9. A 21-foot beam is to be divided so that the longer piece is 1 foot more then 3 times the length of the shorter piece. Find the length of each piece.

10. Over the past few years the satellite Voyager II has passed by the planet Saturn, Uranus, and Neptune, continually updating information about these planets, including the number of moons for each. Uranus is now believed to have 7 more moons then Neptune. Also Saturn is believed to have 2 more then twice the number of moons of Neptune. If the total number of moons for these planets is 41, find the number of moons for each planet.

11. The human eye blinks every 5.1 seconds on average. How many times does the average eye blink in one day? In one year?

12. The states of Hawaii and Pennsylvania spend a total of $60.9 million for tourism. The state of Hawaii spends $8.2 million less then twice the amount of money that the state of Pennsylvania spends. Find the amount that each state spends on tourism.

Solve for T

13. A = P + PRT

Solve:

14. Convert -52°F to Celsius.

15. What is the length of the equator of the earth, if the radius of the earth is 4000 miles?

16. The number 126 is 36% of what number?

17. In 1998, a total of 916 million people were solicited by credit card issuers. This represents a 275% increase since 1992. How many people were solicited in 1992? Round to the nearest whole million.

18. How many cubic centimeters of a 25% antibiotic solution should be mixed with 10 cubic centimeters of a 60% solution in order to get a 30% antibiotic solution?

19. Mr. Mills invests his inheritance of $160,000 in two accounts. One account earns 3% and the other earns 7%. If he makes $9000 in interest, how much money did Mr. Mills invest in each account?

Solve and graph:

20. $3 - 7x \geq 10 - 8x$

21. $5(x + 4) < 7(x - 7)$