Sixth Grade - Dependent and Independent

1) Solve for p : 18 + 18(-p + 1) = 8p - 2(6 + p)

- p = 4
- p = 2
- p = 9
- p = 3

2) Solve for x : 14 + 14(-x + 2) = 8x - 3(5 + x)

- x = 4
- x = 9
- x = 8
- x = 3

3) Solve for m : 12 + 12(-m + 7) = 15m - 8(7 + m)

- m = -3
- m = -5
- m = -2
- m = -8

4) Solve for m : 14 + 14(-m + 1) = 9m - 2(7 + m)

- m = 9
- m = 5
- m = 8
- m = 2

5) Solve for m : 16 + 16(-m + 5) = 13m - 6(7 + m)

- m = 7
- m = 9
- m = 3
- m = 6

6) Solve the equation $11(m - 1) = 3m + 1$, for the value of m.

- 1.8
- 1.0
- 1.5
- 1.4

7) What is the value of x, if $4(x - 4) + 24 = 3(x - 3) + 15$?

- x = -2
- x = -3
- x = -7
- x = -5

8) What is the value of x, if $2(x - 2) + 9 = 3x + 16$?

- x = -18
- x = -19
- x = -13
- x = -11

9) Solve : $6x + 3 + 3(3 + 9x^2) = 7(2 - x) + 27(x^2 + 2)$

- 54/34
- 59/13
- 23/13
- 49/23

10) Find the value of y in the equation 5y - 3 = y + 5

- y = 3/2
- y = 1/2
- y = 1/5
- y = 1/3

11) Find the value of y in the equation 7y - 2 = y + 10

- y = 2
- y = 8
- y = 4
- y = 6

12) Solve: 34q - 16 + 9(q - 3) = 129

- q = 9
- q = 4
- q = 7
- q = 5

13) Mike breaks a stick that is 93 cm into two pieces. Find the length of one piece if the length of other piece is 43 cm

- 30 cm
- 20 cm
- 40 cm
- 50 cm

14) The perimeter of a rectangle is represented by p = 2(l + b) where p, l and b are the perimeter, length and width respectively. Solve for length.

- l = (p - 7b) / 2
- l = (2p - 7b) / 4
- l = (p - 5b) / 5
- l = (p - 2b) / 2

15) What is the value of x, if 2(x - 2) + 9 = 3x + 16?

- x = 21
- x = 15
- x = 11
- x = 32

16) A number decreased by 9 equals 4 times the number. Find the number

- x = -9
- x = -6
- x = -3
- x = -7

17) The sum of three times a number and 11 is 32. Find the number.

- x = 4
- x = 7
- x = 6
- x = 9

18) Determine if the following equations are linear or non-linear y = (1/2)x + 3/4

- Cannot be determined
- NOT linear
- None of these
- Linear

19) Determine if the following equations are linear or non-linear $x^2 + y^2 = 4$

- Linear
- Cannot be determined
- NOT linear
- None of these

20) Determine if the following equations are linear or non-linear $2x - 5y + x^2 = 0$

- Cannot be determined
- Linear
- NOT linear
- None of these

21) A golden brick at 0.900 of purity weighs 7,500 grams. What amount of pure gold should be added to lower its purity to 0.990?

- 345.454
- 675.675
- 234.425
- 454.567

22) A car leaves a city with a speed of 90 mph. Three hours later another car in pursuit of the first leaves the same place where the first left, with a speed of 120 mph, find the time it takes for the second car to reach the first

- 19
- 15
- 17
- 12

23) Khan and David are cousins. The sum of their ages is 25. David is two years less than twice the

age of Khan. How old is Khan?

- 6
- 9
- 4
- 7

24) Ras is five years older than twice his sister Helen's age. The difference is their ages are 14 years. How old is Helen?

- 9
- 7
- 5
- 4

25) Debra is 3 more than 9 times as old as John. Kevin is half as old as Debra. Sara is 5 years old which is one third as old as Kevin. Find Johns age

- 9
- 12
- 4
- 3

26) David, Dave and Don are counting ducks down by the pond. They are having a contest to see who can spot the most ducks. David counts twice as many as Dave. Dave counts twice as many as Don. Together they spotted a total of 42 ducks. How many ducks did each spot?

- 6
- 8
- 5
- 3

27) A car goes from point A to point B, at a rate of 40 mph. Then the same car turns around and goes

from point B to point A, at a rate of 60 mph. What is the average speed of this car?

- 58
- 48
- 89
- 34

28) A car gets 28 mpg on highway; 22 mpg in city. A total trip is 627 miles using 24 gallons of gas. How many miles were driven in city?

- 165
- 190
- 159
- 148

29) An earthquake emits primary waves moving at 8.0 Km/s and secondary waves moving at 5.0 km/s. How far from the epi-center of the earthquake is the seismic station if the two waves arrive at the station 2.0 min apart. (answer 640 km)

- 2400
- 1800
- 1600
- 2300

30) Jay and Lim are traveling west in separate cars on the same highway. Jay is traveling at 60 miles per hour and Lim at 70 miles per hour. Jay passes Exit 54 at 2:30pm. Lim passes the same exit at 2:36pm. At what time will Lim catch up to Jay?

- 3:12 pm
- 4:23 pm
- 2:10 pm
- 5:12 pm