

DAY 1 – Translating English to Math

Translate each phrase into an algebraic expression.

1. a) six more than three times a number

$$6 + 3x$$

b) five less than one third a value

$$\frac{1}{3}x - 5$$

c) fourteen less than the square of a number

$$x^2 - 14$$

d) the sum of twenty and a number, divided by five

$$\frac{20 + x}{5}$$

2. a) three times a length

$$3L$$

b) fifteen percent of an area

$$0.15A$$

c) increase in area by fifteen percent

$$1.15A$$

d) three more than the product of five and a number

$$3 + 5x$$

Translate the sentence(s) into an algebraic equation(s).

3. Four less than three times a value, is two

$$3x - 4 = 2$$

4. One third of a number, increased by two, is one

$$\frac{1}{3}x + 2 = 1$$

5. The price of a meal, including thirteen percent tax, is ninety-five dollars and seventy-six cents.

$$1.13p = 95.76$$

6. The sum of two times the smaller of two consecutive numbers and three times the larger number is 113.

$$2x + 3(x+1) = 113$$

7. The age of a tree tripled and then decreased by 5 years is 25 years

$$3x - 5 = 25$$

8. N nickels and L loonies give a total value of \$5.25

$$0.05N + 1.00L = 5.25$$

Translate into TWO algebraic equations. Record let statements.

9. The sum of two numbers is 12. The difference is 10.

$$x + y = 12$$

$$x - y = 10$$

let x and y be two numbers

10. At a school concert, 355 tickets were sold. There were 51 more student tickets sold than adult tickets.

$$A + S = 355$$

$$51 + A = S$$

let A be # adults
let S be # of students

11. Enrico weighs 7 kg more than Julian. The sum of their masses is 183 kg.

$$E = 7 + J$$

$$E + J = 183$$

let E be Enrico's age

let J be Julian's

Review Graphing

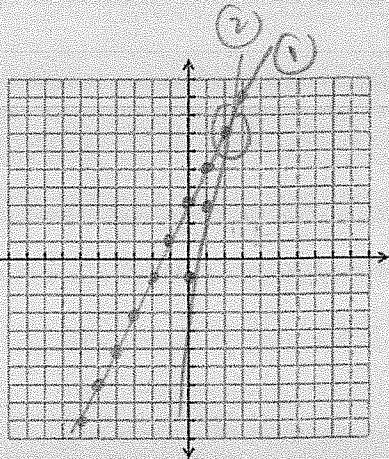
Plot line 1, then line 2 over top. Find the coordinate point where they meet

12. $y = 2x + 3$

$y = 4x - 1$

Line 1 $m = \frac{2}{1}$ $b = 3$

Line 2 $m = \frac{4}{1}$ $b = -1$



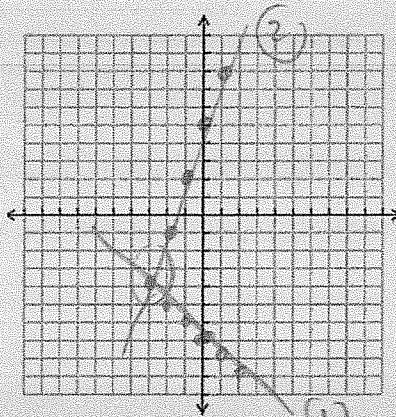
Therefore the meeting point is $(2, 7)$

13. $y = -x - 7$

$y = 3x + 5$

Line 1 $m = \frac{-1}{1}$ $b = -7$

Line 2 $m = \frac{3}{1}$ $b = 5$



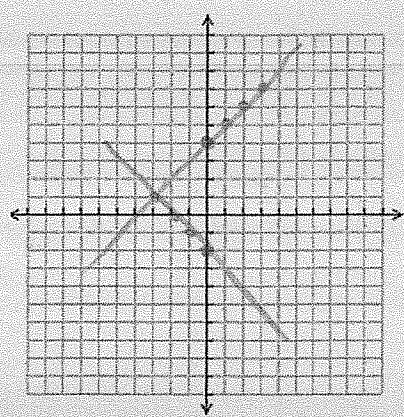
Therefore the meeting point is $(-3, 4)$

14. $y = x + 4$

$y = -x - 2$

Line 1 $m = \frac{1}{1}$ $b = 4$

Line 2 $m = \frac{-1}{1}$ $b = -2$



Therefore the meeting point is $(-3, 1)$

Fill in the blanks. Use all the words/phrases provided on the right (once)

15. The Greek letter delta, Δ , stands for change

16. Parallel lines have same slopes

17. Perpendicular lines have neg. recip slopes

18. Horizontal lines have zero slopes

19. Vertical lines have undefined slopes

20. The equation of a vertical line is always $x = \#$

21. To find the equation of a line when two points on the line are known, you must first find the slope of the line

22. To find the equation of a line when the slope and a point on the line are known, you must find the y-intercept of the line

23. The slope of a line can be found by dividing the rise by the run.

- change
- negative reciprocal
- run
- same
- slope
- undefined
- x
- y
- zero