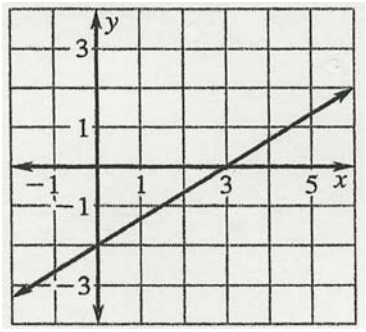
1. It's possible for a February to have _?_ Tuesdays, but not more.

a. 3 **b.** 4 **c.** 5 **d.** 6 **e.** NG

2. Which number is equal to its own reciprocal?

a. 0 **b.** $\frac{1}{2}$ **c.** $\frac{2}{3}$ **d.** 1 **e.** NG

3. The line below matches which function?



a. $y = -\frac{2}{3}x - 2$ **b.** $y = \frac{2}{3}x - 2$ **c.** $y = \frac{2}{3}x + 2$ **d.** $y = \frac{2}{3}x + 3$ **e.** NG

4. If 75% of a number is 36, then 150% of the number is:

a. 18 **b.** 48 **c.** 54 **d.** 72 **e.** NG

5. Choose the ordered pair that is a solution of $2x - 3y = 6$.

a. (5, 1) **b.** (0, 6) **c.** (4, 3) **d.** (6, 2) **e.** (3, 2)

6. How long will it take \$1000 invested in a savings account to double if the interest rate is 8%? Use the formula $I = Prt$.

a. 5 years **b.** 11.5 years **c.** 6.25 years **d.** 10 years **e.** 12.5 years

7. Whenever the value of my dimes is one-fifth the value of my quarters, I will have ? as many dimes as quarters.

a. one-half **b.** one-fifth **c.** two-thirds **d.** twice **e.** NG

8. Which is an odd number?

a. 2^{99} **b.** 3^{100} **c.** $(3 + 3)^3$ **d.** $(2 + 2 + 2)^2$ **e.** NG

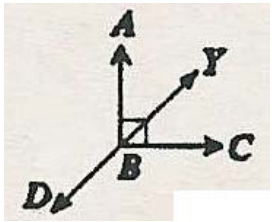
9. What is the area of a square whose perimeter is 3 cm?

a. $\frac{9}{16}$ cm^2 **b.** $\frac{3}{2}$ cm^2 **c.** 3 cm^2 **d.** 9 cm^2 **e.** NG

10. Which of the following is a quadrilateral?

a. pentagon **b.** hexagon **c.** circle **d.** square **e.** NG

11. If $\overleftrightarrow{DY}$ bisects right $\angle$ ABC, what is the measure of $\angle$ ABD?



a. 270º **b.** 45º **c.** 135º **d.** 90º **e.** NG

12. Which of the following is a correct factorization of $x^2 + 10x + 9$?

a. $(x - 9)(x + 1)$ **b.** $(x + 9)(x + 1)$ **c.** $(x + 9)(x - 1)$

d. $(x + 3)(x + 3)$ **e.** Cannot be factored

13. Evaluate the expression $x^2 - 3y$ when $x = 5$ and $y = 3$.

a. 16 **b.** 19 **c.** 1 **d.** –6 **e.** 34

14. Evaluate the expression $(3a)^4$ when $a = 2$.

a. 625 **b.** 162 **c.** 48 **d.** 1296 **e.** 24

15. If p is a prime number, which of the following could also be a prime number?

a. $p + 7$ **b.** $p + 2$ **c.** $p + p$ **d.** p x p **e.** NG

16. Every integer is:

a. irrational **b.** real **c.** positive **d.** non-negative **e.** NG

17. If $a < 10$ and $b < 5$, it MUST be true that:

a. $a > b$ **b.** $a - b = 5$ **c.** $a = 2b$ **d.** $a + b < 20$ **e.** NG

18. Solve the equation: $8(2x - 1) - 5x = 25$

a. -11 **b.** -3 **c.** $1\frac{6}{11}$ **d.** 3 **e.** $2\frac{2}{11}$

19. Choose the equation that describes the function containing all of the points shown in the table.

Input	0	1	2	3	4	5
Output	7	15	23	31	39	47

a. $y = 12 + x^2$ **b.** $y = 7 + 2x^2$ **c.** $y = 4x + 7$ **d.** $y = 16 - 2x$ **e.** $y = 8x + 7$

20. The product of two whole numbers is 36. Their greatest possible sum is:

a. 12 **b.** 13 **c.** 20 **d.** 37 **e.** NG

21. An isosceles right triangle has an angle whose measure is:

a. 45º **b.** 60º **c.** 180º **d.** 30º **e.** NG

22. A sailboat sails 6 km south and then 8 km east. At that moment, how far is the sailboat from its starting point?

a. 10 km **b.** 12 km **c.** 14 km **d.** 48 km **e.** NG

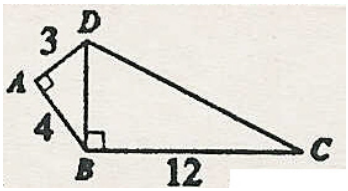
23. At 45 km per hour, the time it takes to travel 1 km is:

a. 180 seconds **b.** 120 seconds **c.** 90 seconds **d.** 80 seconds **e.** NG

24. The average of all the whole numbers from 1 to 100 is:

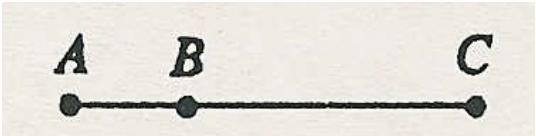
a. 49 **b.** $49\frac{1}{2}$ **c.** 50 **d.** $50\frac{1}{2}$ **e.** NG

25. If angle *DAB* and angle *DBC* are right angles, then *DC* =



a. 5 **b.** 13 **c.** 17 **d.** 18 **e.** NG

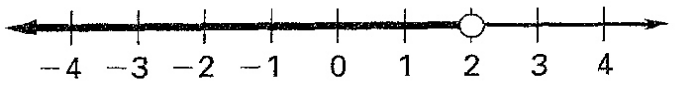
26. On segment $\overline{AC}$, $AB = 8$ and $AB:BC = 2:5$. Find *AC*.



a. 20 **b.** 24 **c.** 28 **d.** 40 **e.** NG

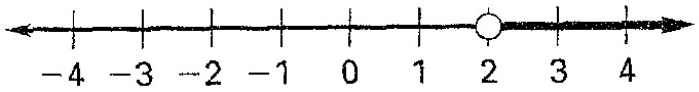
27. Which graph represents the solution of $1 \leq -1 + x$?

a.

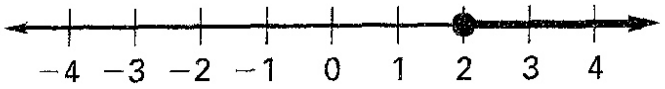


b.

c.



d.

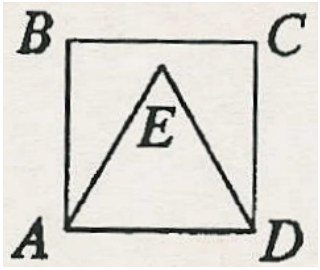


e.

28. Jack is as old now as Jill was 3 years ago. If the sum of their ages is 43, how old will Jill be in 2 years?

a. 20 **b.** 22 **c.** 23 **d.** 25 **e.** NG

29. As shown, *ABCD* is a square and *ADE* is an equilateral triangle. What is the degree-measure of angle *BAE*?



a. 30º **b.** 45º **c.** 60º **d.** 90º **e.** NG

30. The lengths of two sides of a triangle are 7 cm and 12 cm. The perimeter of the triangle CANNOT equal:

a. 23 cm **b.** 26 cm **c.** 30 cm **d.** 37 cm **e.** NG