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Seneca

Pre-Admission Testing: Practice Math Questions

Choose the correct answer to each of the following 60 questions. Answers are provided at the end of this practice test. Approximate time allowance for the practice test is one hour. The real test will contain fewer questions and has a time allowance of 40 minutes.

1. Express $6/30$ as a percent.

   (a) 0.2% (b) 20% (c) 2% (d) 5% (e) none of these

2. 36 is what percent of 18?

   (a) 50% (b) 20% (c) 0.5% (d) 200% (e) none of these

3. 7.5 is 25% of what number?

   (a) 30 (b) 2.5 (c) 1.875 (d) 3 (e) none of these

4. What is 7.2 divided by 0.6?

   (a) 12 (b) 4.32 (c) 43.2 (d) 7.8 (e) none of these

5. 18% of 36 is?

   (a) $1/2$ (b) 0.5 (c) 2 (d) 6.48 (e) none of these

6. What is 0.003 multiplied by 0.03?

   (a) $1/10$ (b) 0.1 (c) 0.0009 (d) $9/10$ (e) none of these

7. 25 photos were taken, but 5 of them could not be developed.
   What percentage of the photos were developed?

   (a) 5% (b) 80% (c) 20% (d) 75% (e) none of these

8. If a person makes $12.00 per hour, and twice that much if they work more than 35 hours in a week, how much would that person make if they worked 42 hours in a week?

   (a) $600 (b) $588 (c) $576 (d) $504 (e) none of these

9. Express $^{12}/_{30}$ as a decimal.

(a) 6.6 (b) 0.4 (c) 0.6 (d) 0.44 (e) none of these

10. Elaine paid $276 for a pair of shoes. That cost included a sales tax of 8% and a service tax of 7%. What would the shoes have cost if there had been no tax?

(a) $276 (b) $312 (c) $240 (d) $250 (e) none of these

11. Four room-mates split the cost of groceries and utilities each month. In May, groceries bought cost $392.00, the telephone bill was $75.26, electricity consumption cost $126.10, gas for heating cost $16.64. How much did each room-mate pay for groceries and utilities in May?

(a) $75.26 (b) $126.10 (c) $76.25 (d) $152.50 (e) none of these

12. Divide $7^{1}/_{7}$ by $2^{3}/_{4}$.

(a) $^{550}/_{28}$ (b) $^{200}/_{77}$ (c) $^{77}/_{200}$ (d) $^{28}/_{550}$ (e) none of these

13. Sally got a raise of salary at her place of employment. She went from $520/week to $546/week. What was the rate of her increase?

(a) 5% (b) 105% (c) 4.8% (d) 104.8% (e) none of these

14. 2.7% of what amount is $0.81?

(a) $21.87 (b) $218.70 (c) $300.00 (d) $30.00 (e) none of these

15. If Sarah is twice as old as Heather, and the sum of their ages is 42 years, how old is Heather?

(a) 24 yrs (b) 7 yrs (c) 14 yrs (d) 28 yrs (e) none of these

16. What is the 'average' of these numbers? 27, 18, 100, 28, 37.

(a) 28 (b) 21 (c) 42 (d) 210 (e) none of these

17. What is the 'mean' of these numbers? 27, 18, 100, 28, 37.

(a) 28 (b) 21 (c) 42 (d) 210 (e) none of these

18. The city of Toronto's population rose from 2,000,000 to 4,500,000 in the last twenty years of the twentieth century. What was the annual average percentage increase in population for that period?

(a) 2.5% (b) 22.5% (c) 11.25% (d) 225% (e) none of these

19. 17.39×10^5 equals:

(a) 1,739,000 (b) 1739 (c) .0001739 (d) 173,900 (e) none of these

20. Jim and Elaine were driving from Toronto to Ottawa, a distance of 400 kilometres. Jim drove ¼ of the way. Then Elaine took over and drove ½ of the remaining distance. How far did they still have to travel?

(a) 100 km (b) 150 km (c) 200 km (d) 50 km (e) none of these

21. If $7x - 3 = 3x + 5$, what is the value of 'x'?

(a) 1 (b) 2 (c) 0 (d) -2 (e) none of these

22. $\frac{1}{3} + \frac{4}{7} - \frac{1}{2} = ?$

(a) $1\frac{5}{7}$ (b) $\frac{6}{7}$ (c) $\frac{8}{21}$ (d) $\frac{17}{42}$ (e) none of these

23. $12.25 - 7\frac{2}{3} = ?$

(a) $5\frac{7}{8}$ (b) $4\frac{7}{12}$ (c) $5\frac{5}{12}$ (d) $4\frac{5}{12}$ (e) none of these

24. $7\frac{1}{4} \times \frac{2}{3} \times 12 = ?$

(a) 29 (b) 58 (c) $63\frac{11}{12}$ (d) 78 (e) none of these

25. $\dfrac{12 - \frac{3}{4}}{5\frac{5}{8}} = ?$

(a) $\frac{7}{12}$ (b) $\frac{7}{8}$ (c) $\frac{12}{5}$ (d) 2 (e) none of these

26. $-5(-3)^2 = ?$

(a) 15 (b) -225 (c) -45 (d) 45 (e) none of these

27. $(4ab^2)^5 = ?$

(a) $1024a^5b^{10}$ (b) $4a^5b^{10}$ (c) $(4ab)^{10}$ (d) $1024ab$ (e) none of these

28. $b^7/b^2 = ?$

(a) b^5 (b) $3.5b$ (c) $b/3.5$ (d) $14b$ (e) none of these

29. What is $\sqrt{(9^2 - 6^2)}$ in simplest terms?

(a) 3^2 (b) 9 (c) $\sqrt{45}$ (d) 45 (e) none of these

30. If x = -7 and y = 3, find the value of $\dfrac{2x + y}{3xy}$

(a) $11/63$ (b) 0 (c) $-11/63$ (d) $11/-63$ (e) none of these

31. $(7x - 3)^2 = ?$

(a) $14x^2 - 42x + 9$ (b) $49x^2 - 42x + 9$ (c) $14x - 6$ (d) $14x + 6$ (e) none of these

32. $6 - \dfrac{(12 - 4)}{4} x4 = ?$

(a) -2 (b) -16 (c) +2 (d) +16 (e) none of these

33. If 250,000 lottery tickets were sold at $100 each, and a person bought 50 of them, what chances has that person of winning the grand prize?

(a) 2% (b) 0.2% (c) 0.02% (d) 0.002% (e) none of these

34. If $a/5 = 0.66$, a equals?

(a) 3.3 (b) $5\frac{2}{3}$ (c) 330 (d) $66/5$ (e) none of these

35. Combine and reduce $6b/3a + b/a$

(a) $7b/4a$ (b) $6b^2/3a^2$ (c) $3b/a$ (d) $3b/6a$ (e) none of these

36. What is the value of $x - 4x^2$, if $x = 1/4$?

(a) 16 (b) 0 (c) -16 (d) 1 (e) none of these

37. Expand $(5a - 3)^2$:

(a) $25a^2 - 30a + 9$ (b) 5a2 – 6 (c) $25a^2 - 9$ (d) $4a^2$ (e) none of these

38. Solve for x: $2x = 9(2 - x) + 4$

(a) 2 (b) $^1/_2$ (c) 22 (d) 9 (e) none of these

39. Solve for y: y = | -7 - 6 |

(a) -13 (b) 13 (c) 1 (d) -1 (e) none of these

40. Solve for y: y = | -7 - (-6) |

(a) -13 (b) 13 (c) 1 (d) -1 (e) none of these

41. How many square centimeters are there in 2 square metres?

(a) 200 (b) 2 (c) 2000 (d) 20,000 (e) none of these

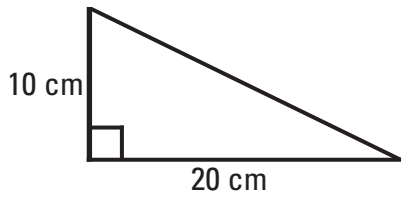
42. In a right-angled triangle, the hypotenuse is 30 cm long. One side is 18 cm long. How long is the third side?

(a) 900 cm (b) 24 cm (c) 576 cm (d) 8 cm (e) none of these

43. Express $^1/_{16}$ as a decimal.

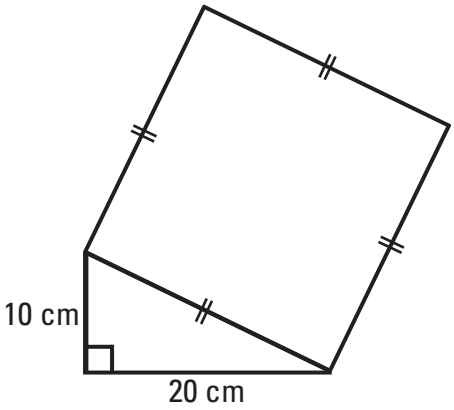
(a) 0.016 (b) 0.0625 (c) 0.625 (d) 0.16 (e) none of these

44. What is the area of this triangle?



(a) 100 cm^2 (b) 200 cm^2 (c) 300 cm^2 (d) 400 cm^2 (e) none of these

45. What is the area of the square?



(a) $25a^2 - 30a + 9$

(b) 5a2 – 6

(c) $25a^2 - 9$

(d) $4a^2$

(e) none of these

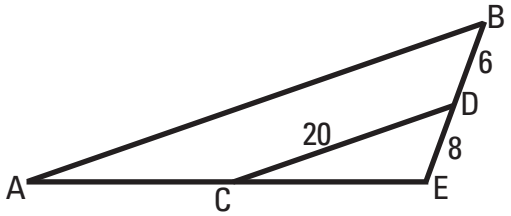
46. $(2a - 5)^2 = ?$

(a) $4a^2 + 25$ (b) $4a^2 - 25$ (c) $4a^2 - 20a + 25$ (d) $4a^2 - 50a + 25$ (e) none of these

47. If there are fifty raffle tickets in a jar, and only two will be drawn out, and you own two of them, what chance do you have of owning both winning tickets?

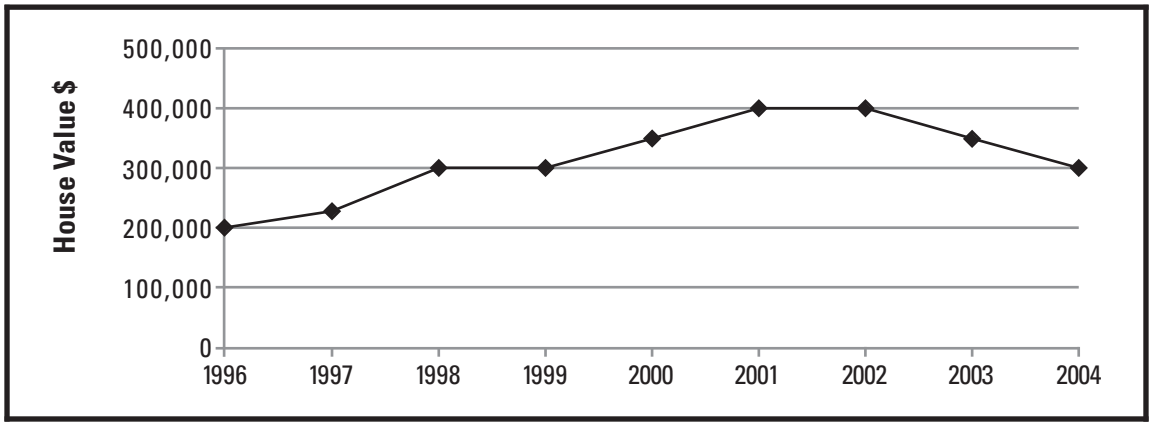
(a) $^2/_{50}$ (b) $^1/_{50}$ (c) $^1/_{49}$ (d) $^1/_{2450}$ (e) none of these

48. If AB is parallel to CD, and CD = 20, BD = 6, DE = 8, what is the length of AB?



(a) 31 (b) 35 (c) 37 (d) 38 (e) none of these

49. Alice bought her house in 1996 and sold it 8 years later. What was the percentage increase in its value?



(a) 50% (b) 100% (c) 150% (d) 66.23% (e) none of these

50. If x is a positive whole number and $^{15}/_{x} = {}^{x}/_{60}$, then x = ?

(a) 240 (b) 120 (c) 24 (d) 30 (e) none of these

51. How much storage area is there in a freezer whose inside dimensions are: 3 feet wide, 3 feet deep, 5 feet tall?

(a) 11 $ft.^2$ (b) 11 $ft.^3$ (c) 45 $ft.^2$ (d) 45 $ft.^3$ (e) none of these

52. Which of these points would be in a table of values for $y = 2x - 1$?

(a) (4, 7) (b) (-4, 7) (c) (7, 4) (d) (4, -7) (e) none of these

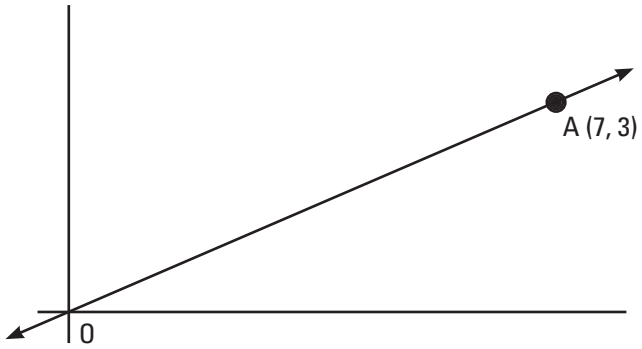
53. A graded section of road is 100 metres long and rises 9 metres.
What is the grade (slop) of that section of road?

(a) 0.111 (b) 0.09 (c) 0.9 (d) 1.9 (e) none of these

54. What is the point of intersection of these equations: $y = x - 3$ and $y = {}^{x}/_{4}$?

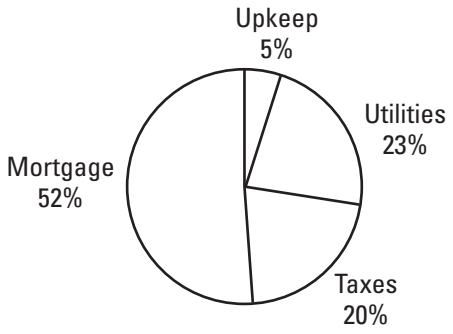
(a) (-1, -6) (b) (-1, -4) (c) (4, 1) (d) (6, 1) (e) none of these

55. The equation of the line OA is:



(a) $7y - 3x = 0$ (b) $x + y = 10$ (c) $7x + 3y = 0$ (d) $3y - 7x = 0$ (e) none of these

56. Total expenses to run the house for one year came to $20,000.
How much more did the utilities cost than the taxes?



(a) $460

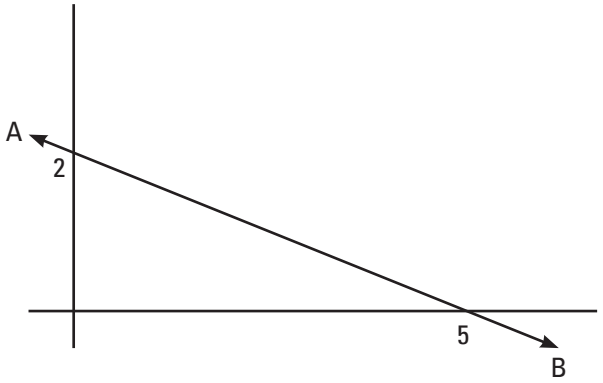
(b) $60

(c) $600

(d) $400

(e) none of these

57. What is the slope of line AB?



(a) $^5/_2$

(b) $-^5/_2$

(c) $-^2/_5$

(d) $^2/_5$

(e) none of these

58. $5^4 / 5^{-3} = ?$

(a) 5^{-7} (b) 5 (c) 5^{-1} (d) 5^7 (e) none of these

59. What is the slope of the line containing points J (4, -3) and K (6, -2)?

(a) $^1/_2$ (b) $^3/_2$ (c) $^5/_2$ (d) $-^1/_2$ (e) none of these

60. Find the solution to $\frac{1}{4} x + 6 < 2$

(a) $x < -4$ (b) $x < 17$ (c) $x < -16$ (d) $x < -2$ (e) none of these

ANSWERS

Page 1:

1. (b) 2. (d) 3. (a) 4. (a) 5. (d) 6. (e) 7. (b) 8. (b)

Page 2:

9. (b) 10. (c) 11. (d) 12. (b) 13. (a) 14. (d) 15. (c) 16. (c) 17. (c)

Page 3:

18. (c) 19. (a) 20. (b) 21. (b) 22. (d) 23. (b) 24. (b) 25. (d) 26. (c)

Page 4:

27. (a) 28. (a) 29. (c) 30. (a) 31. (b) 32. (a) 33. (c) 34. (a) 35. (c) 36. (b)

Page 5:

37. (a) 38. (a) 39. (b) 40. (c) 41. (d) 42. (b) 43. (b) 44. (a)

Page 6:

45. (e) 46. (c) 47. (d) 48. (b) 49. (a)

Page 7:

50. (d) 51. (d) 52. (a) 53. (b) 54. (c) 55. (a)

Page 8:

56. (c) 57. (c) 58. (d) 59. (a) 60. (c)