ALGEBRA 1 PRACTICE TEST 1

Name_____ **Date**_____

Directions: Complete as many problems as you can in the 30 minutes allotted to you. No calculators!

1. $4+6\cdot 3=$

(A) 13 **(B)** 20 **(C)** 22 **(D)** 28 **(E)** 30

2. Solve $(e+88)+8=431$

(A) 335 **(B)** 345 **(C)** 351 **(D)** 511 **(E)** 527

3. If *n* represents an even number, write an algebraic expression for the odd number just after *n*.

(A) $n-2$ **(B)** $n-1$ **(C)** $n+1$ **(D)** $n+2$ **(E)** $n+3$

4. Evaluate $\frac{x}{20}$ when $x=405$.

(A) $2\frac{1}{4}$ **(B)** $20\frac{1}{4}$ **(C)** $20\frac{1}{5}$ **(D)** $20\frac{1}{10}$ **(E)** $20\frac{3}{20}$

5. Solve $\frac{1}{3}=x+\frac{1}{8}$.

(A) $\frac{1}{5}$ **(B)** $\frac{1}{24}$ **(C)** $\frac{5}{24}$ **(D)** $\frac{7}{24}$ **(E)** $\frac{2}{11}$

6. $4^{\sqrt{2}}\times 4^{\sqrt{2}}=$

(A) 8 **(B)** 16 **(C)** 16^2 **(D)** $16^{2\sqrt{2}}$ **(E)** $4^{2\sqrt{2}}$

7. Simplify $q^{-2}r^3p^4r^{-3}p^{-6}q^{-6}$

(A) $q^{-8}p^{-2}r$ **(B)** $q^{12}p^{-24}r^{-9}$ **(C)** q^4p^{-2} **(D)** $q^{-8}p^{-2}$ **(E)** $q^{-4}p^{-2}$

8. Solve $-7-3x=-7$

(A) $-\frac{14}{3}$ **(B)** 0 **(C)** $\frac{14}{3}$ **(D)** 3 **(E)** undefined

9. Expand $-5t(-4v+3w)$

(A) $20tv+3w$ **(B)** $20tv+15tw$ **(C)** $-20tv-15tw$ **(D)** $20tv-15tw$ **(E)** $-20tv+15tw$

10. Solve $40\%x=24$

(A) 9.6 **(B)** 40 **(C)** 60 **(D)** 80 **(E)** 96

11. Which of the following is equivalent to $\frac{a^2}{8}+\frac{a}{6}$?

(A) $\frac{a^3}{14}$ **(B)** $\frac{7a}{24}$ **(C)** $\frac{7a^2}{24}$ **(D)** $\frac{7a^3}{24}$ **(E)** $\frac{3a^2+4a}{24}$

12. Solve $2\frac{1}{2}\left(3\frac{1}{2}-2\right)+2x=-2\frac{1}{2}\left(2-3\frac{1}{2}\right)+3x+4$

(A) -4 **(B)** 0 **(C)** 4 **(D)** 6 **(E)** undefined

13. If $\frac{a}{\frac{1}{3}}=4$, then $\frac{a}{\frac{2}{3}}=$

(A) $\frac{1}{2}$ **(B)** $\frac{8}{9}$ **(C)** 2 **(D)** 8 **(E)** 18

14. Simplify $\dfrac{2.7^2}{-2.7^2+2.7^2}$

(A) 0 **(B)** $\dfrac{1}{2}$ **(C)** $\dfrac{10}{27}$ **(D)** 2 **(E)** undefined

15. 8 less than twice the sum of a number and 10 is twice the opposite of the number. Find the number.

(A) $-\dfrac{10}{3}$ **(B)** $-\dfrac{1}{2}$ **(C)** -3 **(D)** 0 **(E)** undefined

16. $8b-4$ quarts equals how many gallons?

(A) $2b-4$ **(B)** $2b-1$ **(C)** $4b-2$ **(D)** $8b-1$ **(E)** $32b-16$

17. If an old computer can solve 100 math problems in *s* hours and a new computer can solve the same problems in *h* seconds, how much time, in *hours,* will you save if you use the new computer instead of the old computer?

(A) $s-3600h$ **(B)** $s-60h$ **(C)** $3600s-h$ **(D)** $60s-h$ **(E)** $s-\dfrac{h}{3600}$

18. Find the average of the following three algebraic expressions: $4l^3+3l^2$, $-7l^3-l$, and $-9l^2-11l$

(A) $-l^3-2l^2-4l$ **(B)** $-l^3+2l^2-4l$ **(C)** $-l^3-2l^2+4l$ **(D)** l^3-2l^2-4l **(E)** $\dfrac{11l^3+12l^2+10l}{3}$

19. Simplify $\left(6a-3b-5a+4b\right)\div\dfrac{\left(8a-b-7a+2b\right)}{\left(-4a-2b+b+5a\right)}$.

(A) $a-b$ **(B)** $a+b$ **(C)** $b-a$ **(D)** $\dfrac{a}{b}$ **(E)** $\dfrac{b}{a}$

20. If $8\left(14\pi-\sqrt{3y}\right)=\dfrac{16}{3}$, what is the value of $\dfrac{14\pi-\sqrt{3y}}{4}$?

(A) $\dfrac{1}{6}$ **(B)** $\dfrac{4}{3}$ **(C)** $\dfrac{8}{3}$ **(D)** $\dfrac{32}{3}$ **(E)** $\dfrac{512}{3}$

21. Solve $\dfrac{x}{2\frac{1}{4}}=36$

(A) $\dfrac{1}{81}$ **(B)** $\dfrac{1}{16}$ **(C)** 16 **(D)** 78 **(E)** 81

22. Solve $2\left(4x-3\right)=14+8x$

(A) 0 **(B)** 8 **(C)** 20 **(D)** any real number **(E)** no real number

23. $7.\overline{12}$ is what type of number?

(A) natural **(B)** whole **(C)** integer **(D)** irrational **(E)** rational

24. Simplify $\dfrac{2a+2b-2c}{5c+a+b-6c}$

(A) 2 **(B)** 6 **(C)** $a+b-c$ **(D)** $2\left(a+b-c\right)$ **(E)** $2a+2b-\dfrac{2}{5}c$

25. The volume of a sphere is equal to $\dfrac{4}{3}\pi r^3$ where *r* is the radius. How many times greater is the volume if the diameter of the sphere is doubled?

(A) 2 **(B)** 4 **(C)** 6 **(D)** 8 **(E)** 10

ALGEBRA 1 TEST 1 ANSWERS

1. C	2. A	3. C	4. B	5. C
6. E	7. D	8. B	9. D	10. C
11. E	12. A	13. C	14. E	15. C
16. B	17. E	18. A	19. A	20. A
21. E	22. E	23. E	24. A	25. D