Basic Geometry
Summer Packet

Please show <u>all work</u> in the space provided. Do not leave any questions blank. If you cannot complete the entire question please do as much work as you can.

1. Change $\frac{1}{5}$ to a percent.

   a) 25% b) 20% c) 5% d) .2% 1._____

2. Change 47% to a decimal.

   a) 47.0 b) 4.7 c) 0.47 d) 0.047 2._____

3. Change 2.15 to a fraction.

   a) $2\frac{1}{5}$ b) $2\frac{2}{3}$ c) $2\frac{3}{200}$ d) $2\frac{3}{20}$ 3._____

4. Change $\frac{3}{8}$ to a decimal.

   a) $2.6\overline{6}$ b) 3.75 c) 0.375 d) 0.0375 4._____

5. Change 126% to a decimal.

   a) 0.126 b) 1.26 c) 12.6 d) 126.00 5._____

6. Simplify $4-2(10-5)+3^2$

a) 19 b) 3 c) 16 d) 9 6._____

7. Simplify $5\times 6\div 2\times 3$

a) 5 b) 6 c) 45 d) $\frac{1}{5}$ 7._____

8. Simplify by combining like terms: $3m^2+4n^4-m^2-4n^4$

a) $2m^4$ b) $4m^4$ c) $2m^2$ d) $2m^2+8m^4$ 8._____

9. Simplify by combining like terms: $-4mn+3m+6mn+2mn$

a) $5m^2n+2m^2n^2$ b) $4mn+3m$

c) $-4mn+3m+8mn$ d) $7mn$ 9._____

10. Evaluate $-3m^2+n$ when $m=2, n=-4$.

a) -16 b) 40 c) 32 d) -40 10._____

11. Write the algebraic expression for “the product of a number and four”.

a) $\frac{n}{4}$ b) $4n$ c) $n+4$ d) $n-4$ 11._____

12. Write the algebraic expression for “two times the sum of a number and five”.

a) $2(n+5)$ b) $2n+5$ c) $2\times n+5$ d) $2\times 5n$ 12._____

13. Solve. $2n-5=7$

a) $n=1$ b) $n=6$ c) $n=8\frac{1}{2}$ d) $n=-2\frac{1}{2}$ 13._____

14. Solve. $\frac{2}{5}x-7=41$

a) $x=120$ b) $x=240$ c) $x=106$ d) $x=99$ 14._____

15. Solve. $m+5(m-1)=7$

a) $m=2\frac{1}{3}$ b) $m=-4\frac{1}{3}$ c) $m=2$ d) $m=1\frac{1}{3}$

15._____

16. Solve. $6x+3=8x-21$

a) $x=-9$ b) $x=9$ c) $x=12$ d) $x=-12$ 16._____

17. Solve for *x*. $ax+b=c$

a) $x=c-a-b$ b) $x=\frac{cb}{a}$ c) $x=\frac{c}{a}-b$ d) $x=\frac{c-b}{a}$ 17._____

18. Solve for *h*. $A=\frac{1}{2}bh$

a) $h=\frac{1}{2}Ab$ b) $h=\frac{2A}{b}$ c) $h=A-\frac{1}{2}b$ d) $h=\frac{A-b}{\frac{1}{2}}$ 18._____

19. Solve. $\frac{x+2}{20}=\frac{1}{4}$

a) $x=3$ b) $x=4\frac{1}{2}$ c) $x=78$ d) $x=6$ 19._____

20. Solve. $\frac{x+1}{5}=\frac{x}{4}$

a) $x=1$ b) $x=9\frac{1}{2}$ c) $x=4$ d) $x=6\frac{2}{3}$ 20._____

21. A single batch of cookies calls for $2\frac{1}{2}$ cups of flour. If you want to triple the recipe, how much flour should you use?

a) $6\frac{1}{2}$ b) $7\frac{1}{2}$ c) 5 d) 8 21._____

22. Find the mode: 2,2,3,4,5,6,9

a) 4 b) 7 c) 2 d) $4\frac{3}{7}$ 22._____

23. Find the median: 5, 7, 2, 9, 10

a) 7 b) 2 c) $6\frac{3}{5}$ d) 8 23._____

24. Find the mean: 1, 4 , 4, 6, 6, 6, 8

a) 6 b) 3 c) 7 d) 5 24._____

25. Find the slope between the points $(4,7)$ and $(6,-1)$

a) -4 b) $-\frac{1}{4}$ c) 4 d) 5 25._____

26. The graph of a linear equation with a negative slope should be a(n) _____ line.

a) upward sloping b) downward sloping

c) vertical d) horizontal 26._____

27. Find the slope of the line parallel to $y = \frac{2}{3}x - 7$.

a) -7 b) $-\frac{3}{2}$ c) 7 d) $\frac{2}{3}$ 27._____

28. Find the slope of the line perpendicular to $y = 4x + 2$.

a) 2 b) $-\frac{1}{4}$ c) 4 d) -2 28._____

29. Rewrite $4x-5y=10$ in slope-intercept form; $y=mx+b$.

a) $y=-4x-2$ b) $y=-4x-10$

c) $y=\frac{4}{5}x-2$ d) $y=-\frac{4}{5}x+2$ 29._____

30. Rewrite $y-4=2(x+3)$ in slope-intercept form; $y=mx+b$.

a) $y=2x+10$ b) $y=2x+7$

c) $y=2x+14$ d) $y=2x+2$ 30._____

31. Mike has $100 saved in his bank account and plans to save $25 per week from his part time job. His bank balance, y, for any number of weeks, x, can be represented by which equation?

a) $y=100x+25$ b) $y=25x+100$

c) $x=25y+100x$ d) $x=100+25y$ 31._____

32. Paul weighs 170 pounds. Lisa weighs x pounds. If together they weigh 283 pounds, which equation could be used to represent this situation?

a) $283+x=170$ b) $x=283+170$

c) $283-x=170$ d) $170-x=283$ 32._____