PRE-ALGEBRA TEST 3

Name_____ Date_____

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

1. Which value of x is the largest?
   (**A**) $12{,}987+18{,}896+x=42{,}002$ (**B**) $12{,}988+18{,}896+x=42{,}002$
   (**C**) $12{,}989+18{,}896+x=42{,}002$ (**D**) $12{,}987+18{,}895+x=42{,}002$
   (**E**) $12{,}986+18{,}895+x=42{,}002$

2. If $4\frac{1}{2}$ dozen pieces of bubble gum costs \$5.40, how much would 9 pieces cost?
   (**A**) \$.80 (**B**) \$.90 (**C**) \$1.00 (**D**) \$1.08 (**E**) \$10.80

3. If \$32.80 is evenly distributed among 16 people, how much money would each person get?
   (**A**) \$2.03 (**B**) \$2.04 (**C**) \$2.05 (**D**) \$2.10 (**E**) \$2.50

4. If the temperature in Denver is 55.87° and the temperature in Miami is 91.1°, how many degrees hotter is it in Miami than in Denver?
   (**A**) 35.23 (**B**) 35.33 (**C**) 35.37 (**D**) 36.77 (**E**) 45.23

5. What is 80% of 200?
   (**A**) 16 (**B**) 140 (**C**) 160 (**D**) 180 (**E**) 250

6. What is the least common denominator for the fractions $\frac{11}{15}, \frac{14}{30}, \frac{1}{8}$?
   (**A**) 60 (**B**) 120 (**C**) 150 (**D**) 180 (**E**) 240

7. Which quantity is the smallest?
   (**A**) $26-\left(3\frac{1}{6}+4\frac{1}{7}\right)$ (**B**) $26-\left(3\frac{1}{6}+4\frac{1}{8}\right)$ (**C**) $26-\left(3\frac{1}{6}+4\frac{1}{9}\right)$ (**D**) $26-\left(3\frac{1}{5}+4\frac{1}{7}\right)$ (**E**) $26-\left(3\frac{1}{4}+4\frac{1}{7}\right)$

8. Place the following numbers in decreasing order from left to right. 62.45%, 0.63, $\frac{5}{8}$
   (**A**) 0.63, $\frac{5}{8}$, 62.45% (**B**) $\frac{5}{8}$, 0.63, 62.45% (**C**) 62.45%, $\frac{5}{8}$, 0.63 (**D**) $\frac{5}{8}$, 62.45%, 0.63 (**E**) 0.63, 62.45%, $\frac{5}{8}$

9. If you eat $\frac{4}{9}$ of a pizza every day, how many days would 36 pizzas last?
   (**A**) 16 (**B**) 63 (**C**) 72 (**D**) 81 (**E**) 90

10. What is the next number in the following sequence? 3.7, 7.05, 10.4, _____
    (**A**) 13.85 (**B**) 13.75 (**C**) 13.65 (**D**) 13.55 (**E**) 13.45

11. If a piece of rope 40 yards long is cut into lengths of $3\frac{1}{3}$ *feet* each, how many pieces will there be?
    (**A**) 12 (**B**) 13 (**C**) 36 (**D**) 38 (**E**) 42

12. If $j\times k\times l=36$ and $j\times k=9$, find the value of *l*.
    (**A**) 4 (**B**) 5 (**C**) 6 (**D**) 27 (**E**) 324

13. What percent of $1\frac{1}{2}$ is $\frac{3}{20}$?

(**A**) $\frac{1}{10}\%$ (**B**) 10% (**C**) 12% (**D**) 20% (**E**) $\left(\frac{9}{40}\times 100\right)\%$

14. If a certain floor wax can be bought in either 50 gallon drums or 5 gallon pails, how many more gallons does 8 drums contain than 6 pails?

(**A**) 2 (**B**) 20 (**C**) 370 (**D**) 394 (**E**) 470

15. Which is not equivalent to 624?

(**A**) $6.24\cdot 100$ (**B**) $624{,}000\div 1000$ (**C**) $0.624\cdot 1000$ (**D**) $62.4\div 10$ (**E**) $0.0624\cdot 10{,}000$

16. Solve for *x*. $\frac{8}{x}=\frac{3}{4}$

(**A**) $\frac{1}{6}$ (**B**) $\frac{3}{32}$ (**C**) 6 (**D**) $10\frac{1}{3}$ (**E**) $10\frac{2}{3}$

17. On a map, two parallel roads are $2\frac{7}{8}$ inches apart. If $\frac{1}{2}$ inch equals 40 miles on the map, how many miles apart are the two roads?

(**A**) $\frac{23}{8}$ (**B**) 115 (**C**) 220 (**D**) 230 (**E**) 240

18. The temperature of the water was lowered from 97° F to -32° F. How many degrees did it drop?

(**A**) 55 (**B**) 65 (**C**) 119 (**D**) 129 (**E**) 139

19. You were given \$64 for your birthday and you spent three-eighths of it on the first day. On the second day, you spent three-fourths of the remaining amount. How much money did you have left?

(**A**) \$6 (**B**) \$10 (**C**) \$18 (**D**) \$24 (**E**) \$30

20. $\frac{a}{c}\div\frac{d}{f}=$

(**A**) $\frac{a-d}{c-f}$ (**B**) $\frac{cd}{af}$ (**C**) $\frac{ad}{cf}$ (**D**) $\frac{af}{cd}$ (**E**) $\frac{ac}{fd}$

21. The area of a triangle is 20 and the base is 4. Find the sum of the base and the height.

(**A**) 9 (**B**) 10 (**C**) 11 (**D**) 12 (**E**) 14

22. Which property is demonstrated in $x(y+z)=(y+z)x$?

(**A**) identity (**B**) associative (**C**) distributive (**D**) commutative (**E**) none apply

23. Solve $104-z\neq 96$ for the replacement set $\{7,8,9\}$.

(**A**) 7 (**B**) 9 (**C**) 9 and 8 (**D**) 9 and 7 (**E**) no answer

24. Twelve times the sum of a number and 4 is 24 can be written which of the following ways?

(**A**) $12n+4=24$ (**B**) $12(4n)=24$ (**C**) $12(n+4)=24$ (**D**) $(12+n)4=24$ (**E**) $12+4n=24$

25. Estimate the value of the variable for $1499=v-1251$ by rounding each number to the nearest hundred before simplifying.

(**A**) 200 (**B**) 300 (**C**) 2700 (**D**) 2750 (**E**) 2800

PRE-ALGEBRA TEST 3 ANSWERS

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

1. Since the totals are equal, the equation with the smallest addends will produce the largest *x* value. Therefore E.

2. $(4\times 12)+\left(\frac{1}{2}\times 12\right)=48+6=54$ pieces and $540\div 54=10$ cents per piece. Therefore 9 pieces will cost 90 cents.

3. $32.80\div 16=2.05$

4. $91.1-55.87=35.23$

5. $200\times 0.8=160$

6. $15=3\times 5;\ 30=3\times 2\times 5;\ 8=2\times 2\times 2$ Therefore the LCD = $3\times 5\times 2\times 2\times 2=120$.

7. The minuends of all the choices are the same. Therefore the largest subtrahend will produce the smallest quantity. The subtrahend for choices A, B, and C have the same first addend which can be ignored. The second addend of choice A is the largest thus eliminating B and C. The subtrahend for choices A, D, and E have the same second addend which can be ignored. The first addend of choice E is the largest thus eliminating A and D. Therefore E.

8. 62.45%, 0.63, $\frac{5}{8}\rightarrow 0.6245,\ 0.63,\ 0.625$ Therefore the numbers in decreasing order would be 0.63, 0.625 and 0.6245, which would be choice A.

9. $36\div\frac{4}{9}=36\times\frac{9}{4}=81$

10. $10.4+(7.05-3.7)=10.4+3.35=13.75$

11. $120\div 3\frac{1}{3}=120\times\frac{3}{10}=12\times 3=36$

12. Substituting 9 in for $j\times k$ yields $9\times l=36$. Therefore $l=4$.

13. $\frac{3}{20}\div 1\frac{1}{2}=\frac{3}{20}\cdot\frac{2}{3}=\frac{1}{10}=10\%$

14. $(50\times 8)-(6\times 5)=400-30=370$

15. $62.4\div 10=6.24$

16. $x=\frac{32}{3}=10\frac{2}{3}$

17. $40\left(2\frac{7}{8}\div\frac{1}{2}\right)=40\left(\frac{23}{8}\times\frac{2}{1}\right)=40\times\frac{23}{4}=10\times 23=230$

18. $97+32=129$

19. $\left(64\times\frac{5}{8}\right)\times\frac{1}{4}=40\times\frac{1}{4}=10$

20. $\frac{a}{c}\div\frac{d}{f}=\frac{a}{c}\times\frac{f}{d}=\frac{af}{cd}$

21. $A=\frac{1}{2}bh\ \rightarrow\ 20=\frac{1}{2}\cdot 4\cdot h\ \rightarrow\ h=10\ \rightarrow\ b+h=10+4=14$

22. commutative

23. $104-7\neq 96$ and $104-9\neq 96$

24. $12(n+4)=24$

25. $v=1500+1300=2800$