PRE-ALGEBRA PRACTICE TEST 1

Name_____ Date_____

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

1. Bob can run the 40-yard dash in 4.8 seconds and Bill can run it in 4.67 seconds. How many seconds longer did it take Bob to run it than Bill?

(**A**) 0.13 (**B**) 0.23 (**C**) 0.27 (**D**) 0.58 (**E**) 0.59

2. Which number is divisible by six?

(**A**) 4000 (**B**) 4001 (**C**) 4002 (**D**) 4003 (**E**) 4006

3. If it will be 3:37 p.m. in 100 minutes, what time was it 49 minutes ago?

(**A**) 12:48 p.m. (**B**) 1:08 p.m. (**C**) 1:10 p.m. (**D**) 2:46 p.m. (**E**) 2:48 p.m.

4. Which has the largest product? You may round.

(**A**) 402×901 (**B**) 399×890 (**C**) 398×892 (**D**) 397×894 (**E**) 396×896

5. Which will produce the smallest remainder?

(**A**) $60,427\div67$ (**B**) $60,429\div67$ (**C**) $60,431\div67$ (**D**) $60,433\div67$ (**E**) $60,435\div67$

6. Which statement has the smallest difference?

(**A**) $36,468-(8,468-5,379)$ (**B**) $36,467-(8,468-5,379)$ (**C**) $36,467-(8,467-5,379)$

(**D**) $36,467-(8,466-5,379)$ (**E**) $36,467-(8,465-5,379)$

7. What is the sum of the two smallest prime numbers greater than 88?

(**A**) 162 (**B**) 180 (**C**) 182 (**D**) 186 (**E**) 188

8. How much greater is $(7\times10,000)+(0\times1,000)+(1\times100)+(6\times10)+(0\times1)$ than $(5\times10,000)+(8\times1,000)+(6\times100)+(9\times10)+(8\times1)$?

(**A**) 11,462 (**B**) 11,472 (**C**) 11,562 (**D**) 12,462 (**E**) 21,462

9. A wall is 100 feet long and 6 feet high. If a gallon of paint will cover 400 square feet, how many gallons of paint would be needed to paint both sides of the wall?

(**A**) 1.5 (**B**) 2.6 (**C**) 3 (**D**) 15 (**E**) 30

10. If the average worker can stuff 3 envelopes every minute, how long would it take 20 people to stuff 18,000 envelopes?

(**A**) 5 hours (**B**) 10 hours (**C**) 30 hours (**D**) 100 hours (**E**) 300 hours

11. If Henry averaged 16 points a game for his first 9 games and he averaged 18 points for his final 7 games, what was his total average for the whole season? Round to the nearest integer.

(**A**) 14 (**B**) 15 (**C**) 16 (**D**) 17 (**E**) 18

12. Which of the following simplifies to the largest number?

(**A**) $66\frac{3}{4}\div\left(13\frac{1}{3}\times2\frac{1}{2}\right)$ (**B**) $66\frac{3}{4}\div\left(13\frac{1}{3}\times2\frac{4}{9}\right)$ (**C**) $66\frac{3}{4}\div\left(13\frac{2}{7}\times2\frac{4}{9}\right)$

(**D**) $66\frac{11}{16}\div\left(13\frac{2}{7}\times2\frac{4}{9}\right)$ (**E**) $66\frac{23}{32}\div\left(13\frac{2}{7}\times2\frac{4}{9}\right)$

13. If the area of a rectangle is 80 square feet and the length is 16 feet, find the perimeter.

(**A**) 5 feet (**B**) 21 feet (**C**) 26 feet (**D**) 40 feet (**E**) 42 feet

14. Turtle A crawled 4 yards, 1 foot, 1 inch and Turtle B crawled 3 yards, 2 feet, 3 inches. How much farther did Turtle A crawl than turtle B?

(**A**) 1 ft. 8 in. (**B**) 1 ft. 9 in. (**C**) 1 ft. 10 in. (**D**) 8 ft. 8 in. (**E**) 1 yd. 1 ft. 2 in.

15. What value of *x* will produce the next number in the following sequence?

80 + 20, 20 + 30, 30 - 5, *x* - 12

(**A**) -0.5 (**B**) 0.5 (**C**) 12.5 (**D**) 24.5 (**E**) 25

16. If a basketball goal is lowered 32 inches from a height of 10 feet, how many feet high will the goal be?

(**A**) $7\frac{1}{3}$ (**B**) $7\frac{1}{2}$ (**C**) $7\frac{2}{3}$ (**D**) $8\frac{1}{3}$ (**E**) $8\frac{2}{3}$

17. Write $\frac{18}{10}$ as a percent.

(**A**) 0.18% (**B**) 1.8% (**C**) 18% (**D**) $55.\overline{5}\%$ (**E**) 180%

18. You left your house at 2:00 p.m. and arrived at your relatives house 3 hours early. What time should you have left to get there on time?

(**A**) 11:00 a.m. (**B**) 11:00 p.m. (**C**) 5:00 a.m. (**D**) 5:00 p.m. (**E**) not enough information

19. Which number is divisible by 2, 3, and 5?

(**A**) 5900 (**B**) 7600 (**C**) 8300 (**D**) 10,010 (**E**) 10,010,010

20. A large pool has a diameter of 24 feet and a small pool has a diameter of 12 feet. The radius of the larger pool is how much longer than the radius of the smaller pool?

(**A**) 4 feet (**B**) 6 feet (**C**) 8 feet (**D**) 10 feet (**E**) 12 feet

21. $4+6\cdot 3=$

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

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

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

23. 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**) $n+3$

24. 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**) $20\frac{3}{20}$

25. 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**) $\frac{2}{11}$

PRE-ALGEBRA PRACTICE TEST 2

Name_____ Date_____

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

1. Writes 3.75% as a reduced fraction.

(**A**) $\frac{3}{80}$ (**B**) $\frac{3}{8}$ (**C**) $\frac{1}{25}$ (**D**) $\frac{1}{30}$ (**E**) $\frac{1}{32}$

2. A shark that is $12\frac{1}{9}$ feet long is how much longer than a shark that is $8\frac{1}{8}$ feet long?

(**A**) $3\frac{1}{72}$ feet (**B**) $3\frac{17}{72}$ feet (**C**) $3\frac{71}{72}$ feet (**D**) $4\frac{1}{72}$ feet (**E**) $4\frac{71}{72}$ feet

3. Find the value of $\frac{(797-8)+(781+8)+(1189-400)+(589+200)}{4}$.

(**A**) 787 (**B**) 787.5 (**C**) 788 (**D**) 788.5 (**E**) 789

4. If a circle has a radius of 368 feet, what is the length of the diameter?

(**A**) 184 feet (**B**) 736 feet (**C**) 738 feet (**D**) 746 feet (**E**) 748 feet

5. Which set of fractions are increasing in value from left to right ?

(**A**) $\frac{1}{6},\frac{7}{48},\frac{1}{7}$ (**B**) $\frac{1}{7},\frac{1}{6},\frac{7}{48}$ (**C**) $\frac{1}{7},\frac{7}{48},\frac{1}{6}$ (**D**) $\frac{7}{48},\frac{1}{7},\frac{1}{6}$ (**E**) $\frac{7}{48},\frac{1}{6},\frac{1}{7}$

6. Which has the largest sum?

(**A**) $517\frac{4}{13}+498\frac{5}{13}$ (**B**) $517\frac{2}{13}+498\frac{9}{13}$ (**C**) $517\frac{5}{13}+498\frac{5}{13}$ (**D**) $517\frac{2}{13}+498\frac{6}{13}$ (**E**) $517\frac{1}{13}+498\frac{11}{13}$

7. After changing each mixed number to an improper fraction, which would produce an improper fraction that would have the smallest numerator?

(**A**) $867\frac{14}{29}$ (**B**) $867\frac{15}{28}$ (**C**) $867\frac{16}{27}$ (**D**) $867\frac{17}{26}$ (**E**) $867\frac{18}{25}$

8. If the price of gasoline increased from \$.85 per gallon to \$1.90 per gallon in 3 years, how much more would it cost to purchase 12.4 gallons of gasoline now compared to 3 years ago?

(**A**) \$1.76 (**B**) \$12.92 (**C**) \$13.02 (**D**) \$13.20 (**E**) \$130.20

9. What fraction is equivalent to 684.375?

(**A**) $684\frac{3}{8}$ (**B**) $684\frac{5}{16}$ (**C**) $684\frac{7}{22}$ (**D**) $684\frac{9}{32}$ (**E**) $684\frac{21}{64}$

10. After changing each improper fraction to a mixed number that contains a reduced proper fraction, which fraction will have the largest numerator?

(**A**) $\frac{7653}{87}$ (**B**) $\frac{7655}{87}$ (**C**) $\frac{7657}{87}$ (**D**) $\frac{7659}{87}$ (**E**) $\frac{7661}{87}$

11. If $\frac{1}{7}$ of the football team could not play due to being academically ineligible and another $\frac{1}{8}$ of the team could not play due to health reasons, what fraction of the team could still play?

(**A**) $\frac{13}{15}$ (**B**) $\frac{15}{56}$ (**C**) $\frac{39}{56}$ (**D**) $\frac{41}{56}$ (**E**) $\frac{55}{56}$

12. The trip is exactly 36 miles long, and you have traveled four-tenths of it. How much of the trip still remains?

(**A**) 11.6 miles (**B**) 14.4 miles (**C**) 21.6 miles (**D**) 22.4 miles (**E**) 22.6 miles

13. $\frac{r}{p} \div \frac{s}{q}$ is equivalent to which of the following?

(A) $\frac{p}{r} \times \frac{s}{q}$ **(B)** $\frac{p}{r} \div \frac{s}{q}$ **(C)** $\frac{r}{p} \times \frac{s}{q}$ **(D)** $\frac{r}{s} \times \frac{p}{q}$ **(E)** $\frac{r}{p} \times \frac{q}{s}$

14. A pool that can hold 30,000 gallons of water when full is currently five-sixths full. If you add 2,000 gallons, what fraction of the pool remains empty?

(A) $\frac{1}{6}$ **(B)** $\frac{1}{8}$ **(C)** $\frac{1}{9}$ **(D)** $\frac{1}{10}$ **(E)** $\frac{9}{10}$

15. When writing 71,004 in expanded notation as $(7 \cdot 10{,}000) + (1 \cdot 1{,}000) + (a \cdot 100) + (b \cdot 10) + (4 \cdot 1)$, what is the value of $a + b + 746\frac{137}{222}$?

(A) 0 **(B)** $746\frac{137}{222}$ **(C)** $747\frac{137}{222}$ **(D)** $748\frac{137}{222}$ **(E)** $856\frac{137}{222}$

16. A runner came in second place with a time of 1 hour, 1 minute, and 24 seconds. If the first place runner finished 2 minutes and 37 seconds earlier, what was the time of the first place runner?

(A) 1hr. 4min. 1 sec. **(B)** 98min. 87sec. **(C)** 59 min. 47 sec. **(D)** 58min. 59sec. **(E)** 58 min. 47sec.

17. If the dimensions of one room are 12ft x 12ft x 8ft, and the dimensions of a second room are 18ft x 18ft x 24ft, what is the ratio of the volume of the second room to the volume of the first room?

(A) $\frac{4}{27}$ **(B)** $\frac{27}{4}$ **(C)** $\frac{27}{8}$ **(D)** $\frac{8}{27}$ **(E)** $\frac{27}{5}$

18. Twenty people ride the roller coaster every two minutes. How many minutes will it take for 1200 people to ride the roller coaster?

(A) 2 **(B)** 50 **(C)** 60 **(D)** 120 **(E)** 200

19. If it takes 8 minutes to walk home from school and you walk for 5 minutes 18 seconds, how many minutes do you have left to walk?

(A) $3\frac{7}{10}$ **(B)** $2\frac{4}{5}$ **(C)** $2\frac{21}{50}$ **(D)** $2\frac{41}{50}$ **(E)** $2\frac{7}{10}$

20. Which has the smallest value?

(A) $\frac{1}{6}$ of 60 **(B)** $\frac{1}{4}$ of 44 **(C)** $\frac{1}{7}$ of 63 **(D)** $\frac{1}{5}$ of 55 **(E)** $\frac{1}{9}$ of 72

21. Which is the largest number?

(A) −17.1 **(B)** −17.09 **(C)** −17.11 **(D)** −17.009 **(E)** −17.13

22. 800% of what number is 20?

(A) 0.04 **(B)** 0.4 **(C)** 2.5 **(D)** 25 **(E)** 160

23. Find the value of *x* expressed in $6(4+5) = x \cdot 4 + 6 \cdot y$.

(A) 4 **(B)** 5 **(C)** 6 **(D)** 10 **(E)** 24

24. Solve $8(x-2) = 24$.

(A) 1 **(B)** 3 **(C)** 5 **(D)** 6 **(E)** 18

25. Simplify $4 + 2[3 + 2 \times 4]$.

(A) 22 **(B)** 26 **(C)** 44 **(D)** 66 **(E)** 120

PRE-ALGEBRA PRACTICE TEST 3

Name_____ Date_____

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

1. Which number is less than four hundred and four hundredths?
(**A**) 400.3 (**B**) 400.005 (**C**) 400.39 (**D**) 400.041 (**E**) 400.1

2. If $54.72 is evenly shared among 18 people, how much would each person get?
(**A**) $.34 (**B**) $3.04 (**C**) $3.06 (**D**) $3.40 (**E**) $30.40

3. If the temperature in Detroit is 52.8° and it is 19.9° degrees cooler in Toronto, what is the temperature in Toronto?
(**A**) 32.9° (**B**) 33.9° (**C**) 42.9° (**D**) 43.9° (**E**) 72.7°

4. What is 400% of 800?
(**A**) 200 (**B**) 320 (**C**) 804 (**D**) 3,200 (**E**) 320,000

5. What is the least common denominator for the fractions $\frac{5}{12}, \frac{7}{18}, \frac{11}{42}$?
(**A**) 84 (**B**) 126 (**C**) 252 (**D**) 504 (**E**) 9,072

6. A school consists of 360 students. If two-ninths of the students are absent, how many students are in school?
(**A**) 80 (**B**) 260 (**C**) 270 (**D**) 280 (**E**) 290

7. 2000% of what number is 8000?
(**A**) 0.25 (**B**) 0.04 (**C**) 4 (**D**) 40 (**E**) 400

8. If Bob traveled 60 miles in 5 hours and Bill traveled 52 miles in 4 hours, how much faster did Bill travel than Bob?
(**A**) 1 mph (**B**) 2 mph (**C**) 3 mph (**D**) 4 mph (**E**) 5 mph

9. Place the following numbers in increasing order from left to right? $\frac{7}{40}; 18\%; 0.1746$
(**A**) $\frac{7}{40}; 18\%; 0.1746$ (**B**) $0.1746; 18\%; \frac{7}{40}$ (**C**) $\frac{7}{40}; 0.1746; 18\%$
(**D**) $0.1746; \frac{7}{40}; 18\%$ (**E**) $18\%; \frac{7}{40}; 0.1746$

10. 600% of $2\frac{1}{3}$ is what number?
(**A**) 14 (**B**) 15 (**C**) 1,400 (**D**) 1,500 (**E**) 140,000

11. If a hose fills $4\frac{2}{3}$ buckets every hour, how many hours would it take to fill 42 buckets?
(**A**) $8\frac{2}{3}$ (**B**) 9 (**C**) $9\frac{1}{3}$ (**D**) $9\frac{2}{3}$ (**E**) 10

12. If a 10 ft. long piece of rope is cut into lengths of $2\frac{2}{5}$ *inches*, how many pieces will there be?
(**A**) 4 (**B**) 5 (**C**) 48 (**D**) 50 (**E**) 54

13. If an insect can travel $3\frac{1}{3}$ miles in $23\frac{1}{3}$ hours, how many hours would it take a bug to travel 1 mile?

(**A**) $\frac{1}{7}$ (**B**) $6\frac{1}{3}$ (**C**) 7 (**D**) $7\frac{1}{3}$ (**E**) 8

14. What is the next number in the following sequence? 71.01; 62.5; 53.99, _____

(**A**) 44.3 (**B**) 44.48 (**C**) 44.49 (**D**) 45.3 (**E**) 45.48

15. Solve for *x*. $\frac{1.5}{5} = \frac{x}{2}$

(**A**) 0.6 (**B**) 0.66 (**C**) 0.9 (**D**) $\frac{5}{3}$ (**E**) 6

16. Bob is 6'1", Bill is 5'7", and Ben is 7'1". What is the average height of the three men?

(**A**) 6'2" (**B**) 6'3" (**C**) 6'4" (**D**) 6'5" (**E**) 6'6"

17. Three-eighths of the students were divided evenly among 5 classes. What fraction of the students was in each of the 5 classes?

(**A**) $\frac{8}{15}$ (**B**) $\frac{3}{13}$ (**C**) $\frac{3}{40}$ (**D**) $\frac{15}{8}$ (**E**) $\frac{40}{3}$

18. If the faucet drips every three-eighths of a minute, how many times will it drip in 27 minutes?

(**A**) 72 (**B**) 75 (**C**) 78 (**D**) 83 (**E**) 85

19. If the perimeter of a square box is 2 yards, what is the width of the box in *inches*?

(**A**) 0.5 (**B**) 6 (**C**) 9 (**D**) 12 (**E**) 18

20. If $1\frac{1}{50} + 6\frac{1}{50} + 7\frac{1}{50} - n = 13$, find the value of *n*.

(**A**) $1\frac{3}{50}$ (**B**) $1\frac{3}{150}$ (**C**) $1\frac{47}{50}$ (**D**) $27\frac{3}{50}$ (**E**) $27\frac{3}{150}$

21. Which is true?

(**A**) $\frac{4}{5} < 0.785$ (**B**) $79\% > \frac{4}{5}$ (**C**) $79\% < 0.785$ (**D**) $0.8 < 79\%$ (**E**) $0.8 > \frac{79}{100}$

22. Find the area of a triangle if the base is 8 and the height is 6.

(**A**) 7 (**B**) 14 (**C**) 24 (**D**) 36 (**E**) 48

23. Which value of *x* is the smallest?

(**A**) $x - 145 = 394$ (**B**) $x - 142 = 394$ (**C**) $x - 146 = 394$ (**D**) $x - 143 = 394$ (**E**) $x - 144 = 394$

24. If $r \div 6 = 2$ and $p \times 9 = 63$, what is the value of $r + p + 1$?

(**A**) 11 (**B**) 12 (**C**) 19 (**D**) 20 (**E**) 21

25. If $8,642 + a = 15,498$ and $8,642 + b = 15,499$, find the value of $b - a$?

(**A**) -1 (**B**) 0 (**C**) 1 (**D**) 2 (**E**) 3

PRE-ALGEBRA PRACTICE TEST 4

Name_____ Date_____

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

1. Which of the following is the largest?

(**A**) $4\frac{2}{25}$ (**B**) 4.0777 (**C**) $\frac{101}{25}$ (**D**) 410% (**E**) $4.1\times\frac{98}{99}$

2. Which quantity is the largest?

(**A**) 1.05×100 (**B**) $109{,}999\div1000$ (**C**) $10{,}400\div100$ (**D**) $0.0109\times10{,}000$ (**E**) $0.11\times1{,}000$

3. 963 is what fraction of 2700?

(**A**) $\frac{9}{25}$ (**B**) $\frac{17}{30}$ (**C**) $\frac{17}{300}$ (**D**) $\frac{107}{300}$ (**E**) $\frac{117}{300}$

4. $10^5+10^4+10^3+10^2-10^4=$

(**A**) 11,100 (**B**) 101,000 (**C**) 101,100 (**D**) 111,000 (**E**) 121,000

5. Which will produce the smallest quotient?

(**A**) $150.75\div7.75$ (**B**) $150.75\div7.25$ (**C**) $150.75\div7.5$ (**D**) $150.8\div7.75$ (**E**) $150.9\div7.75$

6. Which of the following is true?

I. $20\frac{1}{2}\%$ II. 0.24 III. $\frac{1}{5}$

(**A**) I < III < II (**B**) III < II < I (**C**) II < III < I (**D**) I < II < III (**E**) III < I < II

7. If Fred ate one-fifth of the pizza and each of his four friends ate one-seventh of the pizza, how much of the pizza remains?

(**A**) $\frac{5}{12}$ (**B**) $\frac{7}{12}$ (**C**) $\frac{6}{35}$ (**D**) $\frac{8}{35}$ (**E**) $\frac{27}{35}$

8. Which of the following has the greatest value?

(**A**) $3\frac{7}{8}+3\frac{7}{8}+3\frac{7}{8}$ (**B**) $3\times3\frac{8}{9}$ (**C**) $\left(4\times3\frac{8}{9}\right)-3\frac{9}{10}$

(**D**) $\left(2\times3\frac{8}{9}\right)+3\frac{7}{8}$ (**E**) $\left(5\times3\frac{8}{9}\right)-\left(2\times3\frac{9}{10}\right)$

9. If 7 girls have a 93 average and 7 boys have an 88 average, what would be the average for the 14 students?

(**A**) 89.5 (**B**) 90 (**C**) 90.5 (**D**) 91 (**E**) 91.5

10. Which is the least difference?

(**A**) $19.1-(2.88+4.56)$ (**B**) $19.2-(2.88+4.56)$ (**C**) $19.3-(2.88+4.56)$

(**D**) $19.1-(2.89+4.56)$ (**E**) $19.1-(2.89+4.57)$

11. Which is the largest quantity?

(**A**) $\frac{348.7+348.7+348.7}{3}+\frac{349.7+349.7}{2}$ (**B**) 348.7×2 (**C**) $(348.7\times3)-348.8$

(**D**) $(348.7\times4)-(348.8\times2)$ (**E**) $(348.7\times5)-(348.8\times3)$

12. If you could travel 180 miles in 6 hours, how much faster would you need to travel in order to travel the 180 miles in 5 hours?

(**A**) 3 mph (**B**) 4 mph (**C**) 5 mph (**D**) 6 mph (**E**) 8 mph

13. George can clean 5 windows every 15 minutes and Greg can clean 1 window every 4 minutes. If they finish a window at the same time, how long would it take for them to finish another window at the exact same time?

(**A**) 12 min. (**B**) 16 min. (**C**) 20 min. (**D**) 24 min. (**E**) 60 min.

14. The small frog can eat 12 insects every 3 minutes and the large frog can eat 180 insects every one-half hour. How much longer will it take the small frog to eat 72 insects than the large frog?

(**A**) 4 min. (**B**) 6 min. (**C**) 12 min. (**D**) 18 min. (**E**) 36 min.

15. If $901-(f+g)=648$, find the value of $f+g$.

(**A**) 253 (**B**) 263 (**C**) 353 (**D**) 363 (**E**) 1,549

16. The minute hand on a watch moves one hour and fifteen minutes every hour. If the watch is set to the correct time at 6:00 a.m., what time will it actually be when the watch says it is 9:00 p.m. of the same day?

(**A**) 5:00 p.m. (**B**) 5:30 p.m. (**C**) 6:00 p.m. (**D**) 6:30 p.m. (**E**) 7:00 p.m.

17. If $b\times 6=240$ and $600\div a=20$, find the value of $\dfrac{b-a}{10}$.

(**A**) 0 (**B**) 1 (**C**) $\dfrac{37}{10}$ (**D**) 7 (**E**) 54

18. If $\frac{5}{8}$ of the boys in your class have a sister, what percent of boys in your class have a sister?

(**A**) 0.625% (**B**) 1.6% (**C**) 61.5% (**D**) 62.5% (**E**) 160%

19. If $\frac{8}{9}$ of water is oxygen, how many pounds of oxygen would there be in 72 pounds of water?

(**A**) 56 (**B**) 63 (**C**) 64 (**D**) 66 (**E**) 81

20. Victor's car has a 20-gallon gas tank that is half full. If gas is $1.50 for each gallon, and Victor filled the tank, how much money would the cashier give back to him if he paid with $20?

(**A**) $5 (**B**) $8 (**C**) $10 (**D**) $12 (**E**) $15

21. The length of the Paul's yard is 20 feet longer than the width. If the length of the yard is 120 feet, find the perimeter of his yard.

(**A**) 220 ft. (**B**) 280 ft. (**C**) 440 ft. (**D**) 460 ft. (**E**) 520 ft.

22. If $64r+32$ is an even number, what is the sum of the largest even number smaller than $64r+32$ and the smallest odd number larger than $64r+32$?

(**A**) $128r+63$ (**B**) $128r+64$ (**C**) $128r+65$ (**D**) $64r+64$ (**E**) $64r+65$

23. Ten more than twice a number is eight less than three times the same number can be written which of the following ways?

(**A**) $10+2n=3n-8$ (**B**) $10+n\cdot n=3n-8$ (**C**) $10+2n=8-3n$ (**D**) $10\cdot 2n=3n-8$ (**E**) $10\cdot 2n=8-3n$

24. Solve $6x-9x+12x=15$.

(**A**) $-1\frac{2}{3}$ (**B**) 1 (**C**) $1\frac{2}{3}$ (**D**) 6 (**E**) 135

25. Solve $\dfrac{18}{11}=\dfrac{6}{x}$

(**A**) $3\frac{2}{3}$ (**B**) $3\frac{3}{4}$ (**C**) $3\frac{7}{18}$ (**D**) $3\frac{11}{18}$ (**E**) $3\frac{13}{18}$

PRE-ALGEBRA TEST 1 ANSWERS

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

1. 0.13 seconds
2. 4002
3. $100+49=149$ minutes = 2 hours 29 minutes. 3:37- 2 hours 29 minutes = 1:08 p.m.
4. Choice A rounds down to 360,000 and the other choices round up to 360,000. Therefore A is the largest.
5. Choice A has a remainder of 60. Since the dividends increase by 2 for each choice, D will have the largest remainder of 66 and E will have the smallest remainder of 1.
6. The minuend of A is larger than the minuend of B, which will produce a larger difference. B, C, D, and E have the same minuend. The largest subtrahend will produce the smallest difference. Therefore B.
7. $89+97=186$
8. $70,160-58,698=11,462$
9. $100\times 6\times 2=1200\rightarrow 1200\div 400=3$
10. One person can stuff 180 envelopes every hour. It would take one person 100 hours to stuff 18,000 envelopes. Therefore it would take 20 people 5 hours.
11. Since the number of 16 point games is slightly more than the number of 18 point games, the average will be just under 17, which rounds to 17.
12. A, B, and C have the same dividend. The smallest divisor will produce the largest number. Since $2\frac{4}{9}<2\frac{1}{2}$ and $13\frac{2}{7}<13\frac{1}{3}$, A and B are eliminated. C, D, and E have the same divisor. The largest dividend will produce the largest quotient. Therefore C.
13. $16w=80\rightarrow w=5\rightarrow 2(w+l)=2(5+16)=42$
14. 4 yd. 1 ft. 1 in. = 3 yd. 3 ft. 13 in.

$$\begin{array}{r} 3 \text{ yd. } 3 \text{ ft. } 13 \text{ in.} \\ \underline{-3 \text{ yd. } 2 \text{ ft. } 3 \text{ in.}} \\ 1 \text{ ft. } 10 \text{ in.} \end{array}$$

15. The sequence is 100, 50 25. The next term, $x-12$, equals 12.5. Therefore $x=24.5$.
16. $10\text{ft}-32\text{in}=10\text{ft}-2\frac{2}{3}\text{ft}=7\frac{1}{3}\text{ft}$
17. $\frac{18}{10}=1.8=180\%$
18. 2+3 = 5
19. Add up the digits within each number. If that sum is divisible by 3, then the number is divisible by 3. 10,010,010 is the only number divisible by 2, 3, and 5.
20. $12-6=6$
21. $4+6\cdot 3=4+18=22$
22. $(e+88)+8=431\rightarrow e+96=431\rightarrow e=335$
23. $n+1$
24. $\frac{x}{20}=\frac{405}{20}=20\frac{1}{4}$
25. $\frac{1}{3}-\frac{1}{8}=\frac{8}{24}-\frac{3}{24}=\frac{5}{24}$

PRE-ALGEBRA TEST 2 ANSWERS

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

1. $3.75\% = 0.0375 = \frac{375}{10000} = \frac{15}{400} = \frac{3}{80}$

2. $12\frac{1}{9} - 8\frac{1}{8} = 11\frac{80}{72} - 8\frac{9}{72} = 3\frac{71}{72}$

3. $\frac{(797-8)+(781+8)+(1189-400)+(589+200)}{4} = \frac{4\times 789}{4} = 789$

4. $368 \times 2 = 736$

5. C = $\frac{1}{7}, \frac{7}{48}, \frac{1}{6} \rightarrow \frac{7}{49}, \frac{7}{48}, \frac{8}{48}$.

6. Each choice has the whole numbers 517 and 498, which can be ignored. E will have the largest sum of $\frac{12}{13}$.

7. $867\frac{18}{25}$

8. $12.4 \times 1.05 = 13.02$

9. B, C, D, and E are each less than one-third and are eliminated.

10. $\frac{7653}{87} = 87\frac{84}{87}$. Therefore B = $87\frac{86}{87}$.

11. $1-\left(\frac{1}{7}+\frac{1}{8}\right) = 1-\left(\frac{8}{56}+\frac{7}{56}\right) = \frac{56}{56}-\frac{15}{56} = \frac{41}{56}$

12. $0.6 \times 36 = 21.6$

13. $\frac{r}{p} \div \frac{s}{q} = \frac{r}{p} \times \frac{q}{s}$

14. $\frac{5}{6} \times 30{,}000 = 25{,}000 \rightarrow \frac{3{,}000}{30{,}000} = \frac{1}{10}$

15. $a + b + 746\frac{137}{222} = 0 + 0 + 746\frac{137}{222} = 746\frac{137}{222}$

16. 60 min. 84 sec. - 2 min. 37 sec. = 58 min. 47 sec.

17. $\frac{18 \times 18 \times 24}{12 \times 12 \times 8} = \frac{3 \times 3 \times 3}{2 \times 2} = \frac{27}{4}$

18. $\frac{1200 \text{ people}}{20 \text{ people per trip}} = 60 \text{ trips}$, and 60 trips x 2 minutes per trip equals 120 minutes.

19. 8 min. - 5 min. 18 sec. = 7 min. 60 sec. - 5 min. 18 sec. = 2 min. 42 sec. = $2\frac{42}{60}$ min. = $2\frac{7}{10}$ min.

20. $\frac{1}{9}$ of 72

21. -17.009

22. $\frac{20}{800\%} = \frac{20}{8} = 2.5$

23. 6

24. $x - 2 = 3 \rightarrow x = 5$

25. $4 + 2[3 + 2 \times 4] = 4 + 22 = 26$

PRE-ALGEBRA TEST 3 ANSWERS

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

1. 400.005
2. $54.72 \div 18 = 3.04$
3. $52.8 - 19.9 = 32.9$
4. $400\% \times 800 = 4 \times 800 = 3200$
5. LCD = $2 \times 2 \times 3 \times 3 \times 7 = 252$
6. $\frac{7}{9} \times 360 = 7 \times 40 = 280$
7. $8000 \div 20 = 400$
8. $(52 \div 4) - (60 \div 5) = 13 - 12 = 1$
9. Since $\frac{7}{40} = 0.175$ and 18% = 0.18, then $0.1746; 0.175; 0.18 \rightarrow 0.1746; \frac{7}{40}; 18\%$.
10. $600\% \times 2\frac{1}{3} = 6 \times \frac{7}{3} = 2 \times 7 = 14$
11. $42 \div 4\frac{2}{3} = 42 \times \frac{3}{14} = 3 \times 3 = 9$
12. $120 \div 2\frac{2}{5} = 120 \times \frac{5}{12} = 10 \times 5 = 50$
13. $23\frac{1}{3} \div 3\frac{1}{3} = \frac{70}{3} \times \frac{3}{10} = 7$
14. $53.99 - (71.05 - 62.5) = 53.99 - 8.51 = 45.48$
15. $x = \frac{1.5 \times 2}{5} = \frac{3}{5} = 0.6$
16. 73 inches + 67 inches + 85 inches = 225 inches total = 75 inches average = 6 ' 3" average
17. $\frac{3}{8} \div 5 = \frac{3}{8} \cdot \frac{1}{5} = \frac{3}{40}$
18. $27 \div \frac{3}{8} = 27 \cdot \frac{8}{3} = 72$
19. $72 \div 4 = 18$
20. The equation simplifies to $14\frac{3}{50} - n = 13$. Therefore $n = 1\frac{3}{50}$.
21. $0.8 > \frac{79}{100}$
22. $A = \frac{bh}{2} = \frac{8 \cdot 6}{2} = 24$
23. B is the smallest due to its smaller subtrahend.
24. $r + p + 1 = 12 + 7 + 1 = 20$
25. *b* is larger than *a* by 1. Therefore $b - a = 1$

PRE-ALGEBRA TEST 4 ANSWERS

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

1. C = $4\frac{1}{25}$ which is less than A. B and E are less than 4.1 or D. A = 4.08 which is less than D.

2. E simplifies to 110 and will be the largest.

3. $\frac{963}{2700}=\frac{107}{300}$

4. $10^5+10^4+10^3+10^2-10^4==10^5+10^3+10^2=101{,}100$

5. A is smaller than B and C because it has it has a larger divisor. A is smaller than D and E because it has a smaller dividend.

6. $\text{I}=20.5\%$, $\text{II}=24\%$, and $\text{III}=20\%$. Therefore III < I < II

7. $1-\left(\frac{1}{5}+\frac{4}{7}\right)=1-\left(\frac{27}{35}\right)=\frac{8}{35}$

8. B can be written as three addends each greater than the addends of A. C and E are smaller than B because the larger minuend is offset by the larger subtrahend. D can be written as 3 addends and is less than B because of the third addend.

9. $88+\frac{93-88}{2}=88+2.5=90.5$

10. A is smaller than B and C because of the smaller minuend. E is smaller than A and D because of the larger subtrahend.

11. A simplifies to 348.7 + 349.7 which eliminates B. C, D, and E are each smaller than B and are eliminated because the larger subtrahends offset the larger minuends. Therefore A.

12. $\frac{180}{5}-\frac{180}{6}=36-30=6$ mph

13. George can wash 1 window every 3 minutes. The LCM of 3 and 4 is 12.

14. The small frog can eat 4 every minute for a total of 18 minutes. The large frog can eat 6 every minute for a total of 12 minutes. Therefore it will take the smaller frog 6 more minutes.

15. $f+g=901-648=253$

16. $15\div1\frac{1}{4}=15\div\frac{5}{4}=15\times\frac{4}{5}=12$. Therefore 6 p.m..

17. $b=40$ and $a=30$. Therefore $\frac{b-a}{10}=\frac{40-30}{10}=1$.

18. $5\div8=0.625=62.5\%$

19. $\frac{8}{9}\times72=8\times8=64$

20. $20-\left(\frac{1}{2}\times20\times1.50\right)=20-\left(10\times1.50\right)=20-15=5$

21. $2\times\left(120+100\right)=2\times220=440$

22. $\left(64r+30\right)+\left(64r+33\right)=128r+63$

23. $10+2n=3n-8$

24. $9x=15\rightarrow x=1\frac{2}{3}$

25. $\frac{66}{18}=3\frac{2}{3}$