NAME: _____ BLOCK: _____ DATE: _____

MATH 10 - CHAPTER 1 - PRETEST

parent/guardian signature

Multiple Choice: Non Calculator - Part A - 10 minutes
CIRCLE the choice that best completes the statement or answers the question.

1. Determine the greatest common factor of 56 and 88.
   a. 77
   b. 616
   c. 7
   d. 8

7222 2211

2. Simplify $\frac{(3.5^{-6})(3.5^{5})}{3.5^{-1}}$ by writing as a single power.
   a. 3.5^{0}
   b. 3.5^{-29}
   c. 3.5^{0}
   d. 3.5^{-2}

$-6+5--1$

3. Determine the least common multiple of 10 and 22.
   a. 2
   b. 55
   c. 220
   d. 110

2·5 2·11

2·5·11

4. Evaluate $\left(\frac{2}{3}\right)^{-3}$.
   a. $\frac{27}{8}$
   b. $\frac{8}{27}$
   c. $\frac{27}{8}$
   d. $-\frac{1}{6}$

$\left(\frac{3}{2}\right)^{3}$

5. Express 2187 as a power of 3.
   a. 3×729
   b. 3^{7}
   c. 7^{3}
   d. 729^{3}

Part B: END OF NON CALCULATOR - When the 10 min are up you can use a calculator

6. Write the prime factorization of 630.
   a. $2 \cdot 5 \cdot 7 \cdot 9$
   b. $2 \cdot 5 \cdot 63$
   c. $2 \cdot 3^{2} \cdot 5 \cdot 7$
   d. $2 \cdot 3 \cdot 5 \cdot 7$

63·10

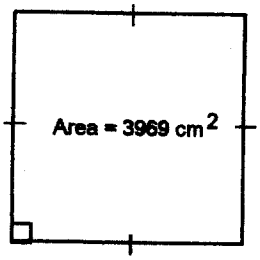
3·3·7·2·5

7. Determine the cube root of 42 875.
   a. 1225
   b. 4763.9
   c. 207.1
   d. 35

8. There are 16 male students and 20 female students in a Grade 10 math class. The teacher wants to divide the class into groups with the same number of males and the same number of females in each group. What is the greatest number of groups the teacher can make?
   a. 12
   b. 4
   c. 8
   d. 16

16 20
2222 225

9. Determine the side length of this square.



   a. 63 cm
   b. 15.83 cm
   c. 992.25 cm
   d. 441 cm

10. Which power with a negative exponent is equivalent to $\frac{1}{125}$?
   a. 5^{-3}
   b. -5^{-3}
   c. 3^{-5}
   d. $(-5)^3$

11. Simplify $\frac{12p^3q^{-7}}{15pq^6}$. Write using powers with positive exponents.
   a. $\frac{4p}{5q^{13}}$
   b. $\frac{p^2}{5q^{13}}$
   c. $\frac{4p^2}{5q}$
   d. $\frac{4p^2}{5q^{13}}$

$\frac{12}{15}$ p q
3-1 -7-6
$\frac{4}{5}$ = 2 -13.

12. What is the value of -4^6?
   a. −4096
   b. −24
   c. 24
   d. 4096

$-(4^6)$

13. Simplify $\left(3^2\right)^{-3}$. $\frac{1}{(3^2)^3} = \frac{1}{3^6}$

a. -3^6 b. $\frac{1}{3^6}$ c. $\frac{1}{3^6}$ d. 3^6

Short Answer - SHOW YOUR WORK

14. Determine the least common multiple of 450 and 180.

WORK

45, 10 — 18, 10

3, 3, 5, 2, 5 — 2, 3, 3, 2, 5

$2^2, 3^2, 5^{-2}$

4, 9, 25

LCM = 900

15. Evaluate $(-4)^{-4}$

WORK $\frac{1}{(-4)^4} = \frac{1}{256}$

ANSWER

16. Simplify $\left(\frac{3}{4}m^{-3}n^{-7}p^{-2}\right)^{-4}$

WORK $\left(\frac{4}{3}\right)^4 m^{12} n^{28} p^8$

ANSWER $\frac{256}{81} m^{12} n^{28} p^8$

17. Evaluate.

$\left(\frac{4^2}{9^0}\right)^4$ WORK $(4^2)^4$ ANSWER

$9^0 = 1$ 4^8 65536

18. Evaluate.

a) $10 \times 4 + 6^3$

WORK

$40 + 216$

$= 256$

ANSWER

b) $5 \times 2^5 - 6^2 \times 2$

$5 \times 32 - 36 \times 2$

$160 - 72$

$= 88$

Problem - SHOW YOUR WORK

19. A square has area 40.0 cm^2. Determine the perimeter of the square to the nearest tenth of a centimetre. (remember: a square has equal sides and perimeter of any object is adding all sides)

WORK

$A = s^2$

$40 = s^2$

$6.32 = side$

ANSWER

$P = 4s$

$= 4(6.32)$

$= 25.3$

20. Write each of the following in scientific notation.

a) 15 000

1.5×10^4

b) 0.0125

1.25×10^{-2}

c) 0.000 096

9.6×10^{-5}

21. Change to scientific notation and then evaluate. Leave the answer in scientific notation (round the number portion to one decimal place).

$$\frac{68,000,000 \times 49,000,000,000}{603,000,000,000,000}$$

$$\frac{(6.8 \times 10^7) \times (4.9 \times 10^{10})}{6.03 \times 10^{14}}$$

$= 5.5 \times 10^3$