(1 point) 1. $\qquad$
(2 points) 2. $\qquad$
(3 points) 3. $\qquad$

1. Mr. Whoopee drove his car from his home to Chicago at the average rate of 40 miles per hour and returned at the average rate of 45 miles per hour. If his time going exceeded his time returning by 30 minutes, how far did he live from Chicago?
2. Charlie is six years older than Chris, and the average of their ages is twice Chris's age. How old is Charlie?
3. In Scrooge's bank there were three times as many dimes as nickels and one-fifth as many quarters as dimes, and three more pennies than nickels. If there was $\$ 20.43$ in the bank, how many quarters were in the bank?

Auburn, Burncoat, Hudson

ROUND II: COORDINATE GEOMETRY ANSWERS


1. Find the slope of the 'line whose equation is $5 x-y=4$.
2. Find the $x$-intercept of the line which contains the points ( $0,-20$ ) and (12, -12).
3. Given: Points $A(-3,-2)$ and $B(5,2)$. Find the equation of the line through the midpoint of $\overline{A B}$ and perpendicular to $\overline{A B}$. Write the answer in the form $y=m x+b$.

FRESHMAN WOCOMAL MEET
ROUND III: OPEN
ANSWERS
(1 point) 1. $\qquad$
(2 points) 2. $\qquad$
(3 points) 3. $\mathrm{d}=$

1. The sum of four consecutive integers is 54. What are the integers?
2. Simplify $\frac{\frac{1}{a-1}-1}{1+\frac{1}{1-a}}$.
3. A student on vacation d days observed that (1) it rained 7 times, morning or afternoon, (2) when it rained in the afternoon, it was clear in the morning, (3) there were 5 clear afternoons, (4) there were 6 clear mornings. Find $d$.

ROUND IV: NUMBER THEORY
(1 point) 1. $\qquad$
(2 points) 2. $\qquad$
(3 points) 3. $\qquad$

1. If $x \div 2 \div 3 \div 5 \div 7$ is a whole number, what is the smallest possible value of $x$ ? (The divisions are performed from left to right beginning with the division by 2.)
2. What is the largest prime number that is a factor of 64350 ?
3. Find the sum of the greatest common factor and the least common multiple of the numbers 840 and 126.

TEAM ROUND: FACTORING
FACTOR COMPLETELY OVER THE SET OF POLYNOMIALS WITH INTEGER COEFFICIENTS EACH CORRECT ANSWER IS WORTH TWO POINTS.

1. $k x^{3}-k x y^{2}$
2. $x^{2}-5 x-6$
3. $\qquad$
4. $4+400 a^{2}+80 a$
5. $\qquad$
6. $3 a^{3} b-12 a^{2} b-63 a b$
7. 

$\qquad$

Maxch 2. 1977 WOCOMAL FRESHMAN NEET ANSWERS

## ROUND I

(1 point) 180 miles
(2 points) 2. 9
(3 points) 3. 24

## ROUND II

(1 point) 1. 5
(2 points) 2. 30 or $(30,0)$
(3 points) 3. $y=-2 x+2$

## ROUND III

(土 point) in 12. 13.14 .15
(2 points) 2.0
(3 points) 3.9

## ROUND IY

(1 Point) 1. 210
(2 polnts) 2.13
(3 pointet) 3. 2562

TEAM ROUND
(2 points for each)

1. $k x(x+y)(x-y)$
2. $(x+1)(x-6)$
3. $4(10 a+1)^{2}$
4. $3 a b(a+3)(a-7)$
5. $75 t^{3}\left(3 t^{2}-5 t+1\right)$
6. $a(2 a+9)$
7. $2\left(x^{n}+2\right)\left(x^{n}-3\right)$
8. $(2 n+c)(n-1)$
9. $2(x+5 y+3 w)(x+5 y-3 w)$
10. $(\mathrm{TI}+\mathrm{CK})(\mathrm{TO}-\mathrm{CK})$
11. $4\left(y^{2}+1\right)(y+1)^{2}(y-1)^{2}$
12. $\mathrm{k} \equiv 90-9,150-15$
