

# SCRANTON PREPARATORY SCHOOL

## ENTRANCE EXAMINATION

### ARITHMETIC

Time: 60 Minutes

December 6, 2008

**DIRECTIONS:** Do all problems in order in the blue examination book. Please be neat. Do not do more than four problems on each page of the blue examination book. Do not change fractions to decimals or decimals to fractions in problems one to fourteen inclusive. Calculators may not be used. Place your final answer in its simplest form in the proper blank on the answer sheet. Since you will be given credit for answers only, you should be very careful when placing your final answer on the answer sheet. In the word problems, make sure you answer the question that is asked.

1. Add:  $\frac{5}{6} + 42\frac{1}{3} + 78 + 6\frac{3}{4}$

2. Add:  $4.7 + 179 + 0.032 + 38.4375$

3. Subtract 17.325 from 44.17

4. Subtract .058 from 105.4

5. Subtract  $202\frac{7}{8}$  from  $316\frac{1}{5}$

6. Subtract  $20\frac{5}{9}$  from 87

7. Multiply 8.076 by 30.4

8. Multiply 1.16 by .0204

9. Multiply  $2\frac{7}{10}$  by  $\frac{15}{36}$

10. Multiply  $4\frac{7}{8}$  by  $11\frac{1}{3}$

11. Divide 453.9 by 340

12. Divide .18631 by 6.2

13. Divide  $\frac{1}{15}$  by  $4\frac{5}{7}$

14. Divide 175 by  $4\frac{1}{6}$

15. Find 8 percent of 482.

16. 65.6 is what percent of 8.2?

17. 122 is 5 percent of what number?

18. If  $n \# d$  is defined as  $d^2 \left( \frac{d}{n} + 3n \right)$ , evaluate  $\frac{1}{12} \# 2$ .

19. Predict the value of  $n$  in the following arrangement of numbers.

1, 2, 3, 5, 8, 13,  $n$

20. Find the sum of the first one-hundred positive whole numbers.
  
21. Five hockey pucks and three hockey sticks cost \$23. Five hockey pucks and one hockey stick cost \$20. How much does one hockey puck cost?
  
22. Scranton Prep held a mock presidential election on October 1<sup>st</sup>, 2008. On that day, 2% of Prep's 900 students were absent. One-ninth of those present abstained (chose not to vote). Four-sevenths of those who did vote, voted for Candidate A. How many students voted for Candidate B?
  
23. Sarah's average for six math tests was 88. If her average for the first four tests was 90, what was her average for the last two tests?
  
24. The senior and junior classes at Scranton Prep sold magazines to raise money for the prom. They made a profit of \$1.50 on each magazine that was sold. If the seniors made a total profit of \$540 and the juniors made a total profit of \$480, how many more magazines did the senior class sell than the junior class?
  
25. A basketball team won three-fourths of the first 28 games it played. Starting with the twenty-ninth game, it won all of its remaining games. At the end of the season, the team had won four-fifths of all the games it played. How many games did the team play in the entire season?

Arithmetic Answer Sheet

1.  $127\frac{11}{12} ; \frac{1535}{12}$

2.  $222.1695$

3.  $26.845$

4.  $105.342$

5.  $113\frac{13}{40} ; \frac{4533}{40}$

6.  $66\frac{4}{9} ; \frac{598}{9}$

7.  $245.5104$

8.  $.023664$

9.  $1\frac{1}{8} ; \frac{9}{8}$

10.  $55\frac{1}{4} ; \frac{221}{4}$

11.  $1.335$

12.  $.03005$

13.  $\frac{7}{495}$

14.  $42$

15.  $38.56$

16.  $800\% ; 800 ; 800 \text{ percent}$

17.  $2,440$

18.  $97$

19.  $21$

20.  $5,050$

EXAMINATION NUMBER \_\_\_\_\_

21.  $\$3.70 ; 3.70$

22.  $336 ; 336 \text{ students}$

23.  $84$

ARITHMETIC SCORE \_\_\_\_\_

24.  $40$

25.  $35$