

Dick Schaff Math Superbowl XLIV  
Level 1: 7<sup>th</sup> Grade Blitz

Directions: (1) Select the most correct answer for each question and bubble it in on your Scantron form.  
(2) No calculating devices of any sort are allowed.  
(3) N.O.T. stands for "None of these."

- A jar contains three red marbles, two blue marbles, and five green marbles. A marble is drawn from the jar at random. What is the probability that the marble is blue?  
a) 20%                      b) 80%                      c) 1:4                      d) 2                      e) N.O.T.
- A jar contains three red marbles, two blue marbles, and five green marbles. A marble is drawn from the jar at random. What is the probability that the marble is not blue?  
a) 20%                      b) 80%                      c) 4:1                      d) 8                      e) N.O.T.
- A right circular cylinder has a radius of 2 cm and a length of 10 cm. What is the volume of this cylinder?  
a)  $20 \text{ cm}^3$                       b)  $40 \text{ cm}^3$                       c)  $20\pi \text{ cm}^3$                       d)  $40\pi \text{ cm}^3$                       e) N.O.T.
- On a map, the scale is  $2 \text{ cm} = 7 \text{ km}$ . Two cities on the map are 7.2 cm apart. How far apart are they in the real world?  
a) 7.7 km                      b) 21.6 km                      c) 25.2 km                      d) 50.4 km                      e) N.O.T.
- A comic book costs \$4.00, and sales tax is 8%. How much would you have to pay for seven comic books?  
a) \$2.24                      b) \$4.32                      c) \$28                      d) \$30.42                      e) N.O.T.
- Completely simplify  $3(8 + 4) \div 2 \times 6$ .  
a) 3                      b) 84                      c) 108                      d) 180                      e) N.O.T.
- What number is in the units place of  $3^{2017}$ ?  
a) 1                      b) 3                      c) 7                      d) 9                      e) N.O.T.

8. Chris can walk  $1\frac{1}{2}$  miles in 36 minutes. How far can Chris walk in  $1\frac{1}{4}$  hours?
- a) 1.875 miles      b) 2 miles      c) 3 miles      d) 3.125 miles      e) N.O.T.
9. Erin gets a \$50 gift card to a game store for their birthday. Erin also has \$10 in store credit for selling back an old game. Then Erin buys two used video games for \$20 each, and three figurines for \$5 each. How much store credit does Erin have left?
- a) \$5      b) \$15      c) \$25      d) \$35      e) N.O.T.
10. Angles A and B are complements. Angles B and C are vertical angles. What must be true of angles A and C?
- a) A and C are supplements.  
b) A and C are complements.  
c) A and C are vertical angles.  
d) A and C are congruent.  
e) N.O.T.
11. A letter is chosen at random from the alphabet. What is the probability the letter comes after the letter e, but before the letter x?
- a)  $\frac{17}{26}$       b)  $\frac{9}{13}$       c)  $\frac{19}{26}$       d)  $\frac{10}{13}$       e) N.O.T.
12. An adult dog is  $2\frac{1}{2}$  feet tall at the shoulder, and  $4\frac{1}{2}$  feet long from nose to tail. A similarly shaped puppy is 1 foot tall at the shoulder. How long is this puppy?
- a) 2 feet      b)  $2\frac{1}{2}$  feet      c) 3 feet      d)  $3\frac{1}{2}$  feet      e) N.O.T.
13. A \$40 sweater is marked 30% off. A customer has a discount card that takes an additional 10% off of the sale price. What is the total percent change in the price?
- a) \$25.20      b) 27%      c) 40%      d) 63%      e) N.O.T.
14. Simplify  $5\frac{3}{4} - 2\frac{7}{8}$
- a) 0      b) 2.875      c)  $3\frac{1}{8}$       d)  $\frac{23}{4}$       e) N.O.T.
15. Dale can clean their bedroom in an hour. How much of their room can they clean if they can only work 40 minutes?
- a) 20%      b)  $33.\bar{3}\%$       c) 40%      d)  $66.\bar{6}\%$       e) N.O.T.

16. It takes 8'' of aluminum foil to wrap a piece of leftover pizza. Bobby has to wrap five slices of pizza. The roll of aluminum foil used to have 25 feet of foil on it, but half of it has already been used. How much aluminum foil is left after Bobby wraps up all the pizza?
- a)  $8\frac{1}{2}$  feet      b)  $9\frac{1}{6}$  feet      c) 21 feet      d)  $21\frac{2}{3}$  feet      e) N.O.T.
17. Evaluate  $3(a + b) - a + b$  when  $a = 6$  and  $b = \frac{3}{4}$ .
- a) 12      b)  $12\frac{1}{2}$       c)  $13\frac{1}{2}$       d) 15      e) N.O.T.
18. What is the least common multiple of 12, 15, and 16?
- a) 1      b) 120      c) 240      d) 2880      e) N.O.T.
19. A book normally costs \$12. After tax it costs a total of \$12.96. What is the tax rate?
- a) 8%      b) 9%      c) 96%      d) 108%      e) N.O.T.
20. How far apart are 7 and  $-5$  on the number line?
- a)  $-2$  units      b) 2 units      c) 12 units      d) 35 units      e) N.O.T.
21. You roll two fair six-sided dice. What is the probability you roll doubles?
- a)  $0.1\bar{6}$       b) 0.50      c) 2.00      d) 6.00      e) N.O.T.
22. A rectangular garden has an area of 108 square feet. The garden is six feet wide. What is the perimeter of the garden?
- a) 18 feet      b) 18 square feet      c) 24 feet      d) 48 feet      e) N.O.T.
23. It takes two eggs to make enough batter for fourteen pancakes. How many eggs would you need to crack open to make one hundred pancakes?
- a) 7      b) 14      c) 15      d) 88      e) N.O.T.
24. A piano teacher thought 64 people would attend a recital. It turned out that 70 people attended. Rounded to two decimal places, what was the percent of error?
- a) 8.57%      b) 8.58%      c) 9.37%      d) 9.38%      e) N.O.T.

25. What is  $4^7 + 4^7 + 4^7 + 4^7$  ?
- a)  $4^8$                       b)  $16^7$                       c)  $4^{28}$                       d)  $16^{28}$                       e) N.O.T.
26. Machine X makes six widgets in five minutes. Machine Y makes five widgets in four minutes. How many total widgets would these two machines make in one hour?
- a) 72                      b) 75                      c) 144                      d) 150                      e) N.O.T.
27. Alex had a small bag of Skittles. Alex ate a third of the candy. Then Alex gave half of the remaining candy to Bobby. Then Alex ate two more Skittles, leaving a quarter of the original amount. How many Skittles were in the original bag?
- a) 24                      b) 30                      c) 36                      d) 48                      e) N.O.T.
28. What is the mean of 15, 17, 17, 19, and 21?
- a) 15                      b) 17                      c) 17.4                      d) 17.8                      e) N.O.T.
29. Some small annual flowers need two and a half inches of space on either side to grow. How many of these flowers can be safely planted in a narrow flowerbed four feet long?
- a) 8                      b) 9                      c) 10                      d) 12                      e) N.O.T.
30. What must be true about the two smallest angles in a triangle?
- a) They are complements.  
b) They are supplements.  
c) They have equal measure.  
d) They are obtuse.  
e) N.O.T.
31. Alex is learning to play basketball, so Alex has a 40% chance of making a basket. Alex takes three shots in a row. What is the probability that Alex makes all three baskets?
- a) 6.4%                      b) 16%                      c) 64%                      d) 120%                      e) N.O.T.
32. A laptop computer keyboard is 30 cm long and 10 cm wide. The "Enter" key is 3 cm long and 1 cm wide. A cat jumps on the computer and randomly hits one spot on the keyboard. What is the probability that they hit the "Enter" key?
- a) 0.1%                      b) 1%                      c) 10%                      d)  $3 \text{ cm}^2$                       e) N.O.T.

