

Delta College Middle School Practice Test B

Mathematics Competition

6th Grade	Problems 1-15
7th Grade	Problems 1-20
8th Grade	Problems 1-25

1. $(5 - 1)(4 - 1)(3 - 1)(2 - 1) - (4 - 1)(3 - 1)(2 - 1)$ is equal to
a. 4 b. 5 c. 9 d. 12 e. 18

2. There are 40 students enrolled in a class. On a certain day, $\frac{1}{5}$ of the students were absent. Of those who were present, $\frac{1}{4}$ were in the library. How many students were in the classroom?
a. 8 students b. 12 students c. 22 students d. 24 students e. 32 students

3. In 2007, Laura's salary was x dollars. In 2008, business was good and she received a 10% raise. In 2009, business was bad and she received a 10% pay cut. How does her salary in 2009 compare to her salary in 2007?
a. same b. 1% more c. 1% less d. 10% more e. 5% more

4. After traveling 25% of his journey, Andrew finds that he still has 4.8 km to go. What is the distance of the entire journey?
a. 5.3 km b. 6.0 km c. 6.4 km d. 8.4 km e. 9.6 km

5. A triangle is graphed on the coordinate plane. The vertices are (1,3), (7,3), and (7,11). What is the area of the triangle?
a. 16 sq units b. 24 sq units c. 28 sq units d. 31.5 sq units e. 38.5 sq units

6. There are 1114 gum balls in a bag. What is the least number of gum balls that Anne would have to remove from the bag, so that the remaining gum balls can be divided equally among her and 6 friends?
a. 0 gum balls b. 1 gum ball c. 3 gum balls d. 4 gum balls e. 5 gum balls

7. Two men play a card game and the stake is one penny per game. At the end of one hour, one has won three games and the other has won three pennies. How many games did they play?
a. 3 games b. 6 games c. 9 games d. 12 games e. none of these

8. A book publisher wants to pack her new paperback book in a box with dimensions 9.5 inches wide by 14.5 inches long by 10.5 inches deep. If each paperback book is 7 inches wide, 9 inches long, and 1 inch thick, what is the greatest number of books she can pack in a box?
- a. 10 books b. 15 books c. 20 books d. 25 books e. none of these
9. A parking garage charges \$1.50 for the first hour and \$0.75 for each additional hour or part of an hour. How much will it cost Josh to park in the garage for $5\frac{1}{2}$ hours?
- a. \$4.50 b. \$5.25 c. \$6.00 d. \$2.25 e. none of these
10. The units (ones) digit of the product of any six consecutive whole numbers is what?
- a. 0 b. 2 c. 4 d. 6 e. 8
11. A merchant has two barrels. The smaller barrel holds 336 L but is only five-sixths full. He empties this into the other barrel and finds that the second barrel is only four-ninths full. How much will the larger barrel hold when full?
- a. 630 L b. 280 L c. 360 L d. 560 L e. none of these
12. If Mike can run a mile in exactly 5 minutes and Mark can run a mile 15% faster than Mike, what will be Mark's time?
- a. 4 min 25 sec b. 4 min 15 sec c. 4 min 45 sec d. 5 min 15 sec e. none of these
13. A car travels 165 miles in 4 hours. At the same rate, how long will it take to go 715 miles? Answer to the nearest $\frac{1}{2}$ hour.
- a. 20 hrs b. 18 hrs c. 17.5 hrs d. 17 hrs e. none of these
14. How many triangles are formed when the diagonals of a square are drawn in?
- a. 2 b. 4 c. 6 d. 8 e. none of these
15. Kala has 5 classical CDs, 4 jazz CDs, and 11 rock CDs. If she randomly selects one CD from her collection to play, what is the probability that it is a classical CD?
- a. 0.25 b. 0.20 c. 4 d. 0.80 e. none of these

Grade 6 students should STOP

16. Morgan works for 10 days and asks to be paid in the following manner: \$1 for the first day and three times as much each day thereafter. Find her total gross earnings for 10 days.
- a. \$29524 b. \$9280 c. \$2700 d. \$19683 e. none of these
17. A number consists of three digits, 9, 5, and another. If these digits are reversed and then subtracted from the original number, the resulting answer will consist of the same three digits arranged in a different order still. What is the third digit?
- a. 5 b. 4 c. 3 d. 2 e. none of these
18. In how many ways can you arrange four books on a shelf?
- a. 24 b. 16 c. 8 d. 256 e. 10
19. Karin buys computer disks at a price of 4 for \$5 and sells them at a price of 3 for \$5. How many computer disks must she sell in order to make a profit of \$100?
- a. 100 disks b. 120 disks c. 200 disks d. 240 disks e. 1200 disks
20. Find the base 10 value of 45_8 .
- a. 44 b. 45 c. 296 d. 37 e. none of these

Grade 7 students should STOP

21. A storage room is in the shape of a rectangular solid. The area of the floor is 108 square feet and the volume of the room is 1296 cubic feet. How tall is the room?
- a. 6 ft b. 8 ft c. 12 ft d. 16 ft e. 18 ft
22. There are 3 roads from Alda to Baker and 4 other roads from Baker to Crest. Joe must drive from Alda to Crest through Baker every day. How many times could Joe make the trip without taking exactly the same route twice?
- a. 15 b. 12 c. 7 d. 4 e. 3
23. A dart is thrown to hit a rectangular dart board that is 30 inches by 25 inches. Inside the dart board is a right triangle target with sides of 9, 12, and 15 inches. Find the probability of striking inside the triangle?
- a. 0.052 b. 0.252 c. 0.144 d. 0.072 e. none of these
24. How many guests were present at a party if every two used a dish for rice between them, every three used a dish for broth between them, every four used a dish for meat between them, and there were 65 dishes altogether?
- a. 65 b. 60 c. 36 d. 24 e. none of these
25. A soccer team has won 20 games and lost 15. If the team wins the remaining games, they will have won 80% of all the games which they played. How many games will they play altogether?
- a. 35 games b. 40 games c. 60 games d. 75 games e. none of these