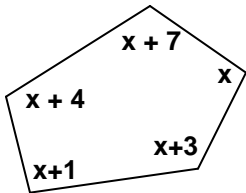
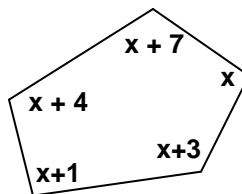


2005 Pizitz Mathematics Tournament Seventh Grade Test

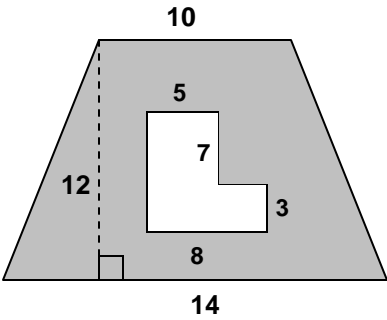
- Solve. $-8 - 4x = -2x + 4$
A. -6 B. 2 C. 8 D. 10 E. NOTA
- Find the probability of getting a sum which is a composite number if a pair of fair six-sided dice is rolled once.
A. $\frac{2}{3}$ B. $\frac{5}{6}$ C. $\frac{7}{12}$ D. $\frac{8}{9}$ E. NOTA
- $153_6 + 234_5 = \underline{\hspace{2cm}}_4$
A. 2202_4 B. 2022_4 C. 2023_4 D. 2222_4 E. NOTA
- A = set of all factors of 8, B = set of all factors of 12, C = set of all factors of 15.
Find $C \cup (A \cap B)$.
A. {1,3,4,5,15} B. {1,2,3,4} C. {1,3} D. {1,2,3,4,5,15} E. NOTA
- A train leaves the station at 7:20 a.m. and travels at 45 mph. A second train leaves the same station one hour later and travels at 75 mph. At what time does the second train overtake the first train?
A. 8:50 a.m. B. 8:27 a.m. C. 9:50 a.m. D. 9:27 a.m. E. NOTA
- A grizzly bear can run 30 miles in one hour. How many feet per second is this?
A. 2640 ft/sec B. 44 ft/sec C. 440 ft/sec D. 2640 ft/sec E. NOTA
- The number of years in John's age is the number of months in Jim's age. Their combined age is 65 years. What is Jim's age?
A. 5 yrs B. 7 yrs C. 60 yrs D. 65 yrs E. NOTA
- The surface area of a cube is 1176 square feet. Find the volume.
A. 2744 ft^3 B. 2197 ft^3 C. 1728 ft^3 D. 3375 ft^3 E. NOTA
- Find the value of x.
A. 33 B. 69
B. 48 D. 105 E. NOTA

- Suppose 36 videos are added to a video collection that has 24 videos. Find the percent of change.
A. 50% B. 100% C. 125% D. 150% E. NOTA



11. Evaluate and express the answer in scientific notation: $(5.52 \times 10^9)(2.25 \times 10^5)$.
- A. 1.242×10^{13} B. 1.242×10^{15} C. 1.242×10^5 D. 1.242×10^{14} E. NOTA
12. Thomas wants to put a fence around a rectangular garden that is 14' by 22'. If the cost of fencing is \$5.00 per foot, how much will it cost to build a fence around the garden?
- A. \$1,540 B. \$360 C. \$180 D. \$30 E. NOTA
13. $a \div b = b(a^2 + 7)$. Find $2 \div (3 \div 8)$.
- A. 2,343 B. 495 C. 1,408 D. 90,752 E. NOTA
14. What is the product of the GCF of $6x^2y^3d$ and $9xy^2d$ and the LCM of 27 and 18?
- A. $42x^2yd$ B. $162xy^2d$ C. $162x^2y^3d$ D. $27xy^2d$ E. NOTA
15. Sushma and Wendy walked north for 8 miles, east for 9 miles, south for 5 miles, and finally west for 5 miles. How many miles are they from their original point?
- A. 5 mi B. 8.9 mi C. 25 mi D. 10.3 mi E. NOTA
16. Mickey Mouse has a sphere for his head and two more for his ears. If his ears have a diameter of 3 cm and his head has a diameter of 5 cm, find the total volume of his head and ears. Round answer to the nearest tenth.
- A. $26.8\pi \text{ cm}^3$ B. $17.3\pi \text{ cm}^3$ C. $25.3\pi \text{ cm}^3$ D. $29.8\pi \text{ cm}^3$ E. NOTA
17. Tootles had some marbles. He gave $\frac{1}{4}$ of them to Tinkerbell. He gave $\frac{1}{9}$ of the remainder to Peter. He then gave $\frac{1}{2}$ of the remainder to Rufio. He gave $\frac{3}{4}$ of the remainder to Wendy. He lost one and had three left. How many marbles did Tootles have in the beginning?
- A. 36 B. 54 C. 48 D. 49 E. NOTA
18. Callie wants to buy a dress that originally cost \$400. She has a coupon for 20% off and another for an additional 30% off. Find the total price of the dress including an 8% sales tax.
- A. \$241.92 B. \$184.00 C. \$216.00 D. \$203.68 E. NOTA
19. If a whole number X is divided by 17, the quotient is 75, and the remainder is 16. What is the sum of the digits of X?
- A. 1291 B. 15 C. 13 D. 11 E. NOTA
20. It takes Lucy 20 hours to complete a project alone. If it takes Johnny 12 hours to complete the project, how many hours does it take them if they work together?
- A. 10 hr. B. 7.5 hr. C. 6 hr. D. 5.5 hr. E. NOTA
21. Kenneth went to a neighborhood pet store. The owner said he sells one cat for every 3 dogs and 4 cats for every 6 birds. How many dogs does the store sell for every bird?
- A. 12 B. 4 C. 3 D. 2 E. NOTA

22. Find the area of the shaded region.

- A. 203 units²
- C. 104 units²
- B. 64 units²
- D. 85 units²
- E. NOTA



23. Jack and Jill have invested \$2500 at 10% annual simple interest rate. They have \$6000 more to invest. At what rate must they invest the \$6000 to have a total of \$9440 at the end of the year?

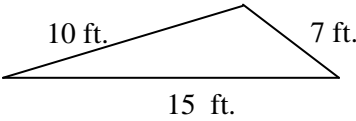
- A. 11%
- B. 12.5%
- C. 11.5%
- D. 13.5%
- E. NOTA

24. Joe’s clock stopped at 9:20 p.m. What is the measure of the larger angle formed by the hour and minute hands of the clock?

- A. 150°
- B. 180°
- C. 210°
- D. 315°
- E. NOTA

25. Find the area of the triangle shown.

- A. $12\sqrt{6}$ ft²
- C. 37.5 ft²
- B. 45 ft²
- D. $12\sqrt{3}$ ft²
- E. NOTA



Tiebreakers Write each tiebreaker answer on the back of the scantron.

TB1. Find the geometric mean of 25 and 20 in simplest form.

TB2. Solve the following system of equations:

$\frac{1}{2}x + 2y = 12$ $x - 2y = 6$

TB3. Solve.

$\frac{y+3}{16} - \frac{y-4}{6} = \frac{1}{3}$