Math Word Problems with Answers - Grade 8

Grade 8 math word problems with answers are presented. Also solutions and explanations are included.

1. A car traveled 281 miles in 4 hours 41 minutes. What was the average speed of the car in miles per hour?

2. In a group of 120 people, 90 have an age of more 30 years, and the others have an age of less than 20 years. If a person is selected at random from this group, what is the probability the person's age is less than 20?

3. The length of a rectangle is four times its width. If the area is 100 m2 what is the length of the rectangle?

4. A six-sided die is rolled once. What is the probability that the number rolled is an even number greater than 2?

5. Point A has the coordinates (2,2). What are the coordinates of its image point if it is translated 2 units up and 5 units to the left, and reflected in the x axis?

6. The length of a rectangle is increased to 2 times its original size and its width is increased to 3 times its original size. If the area of the new rectangle is equal to 1800 square meters, what is the area of the original rectangle?

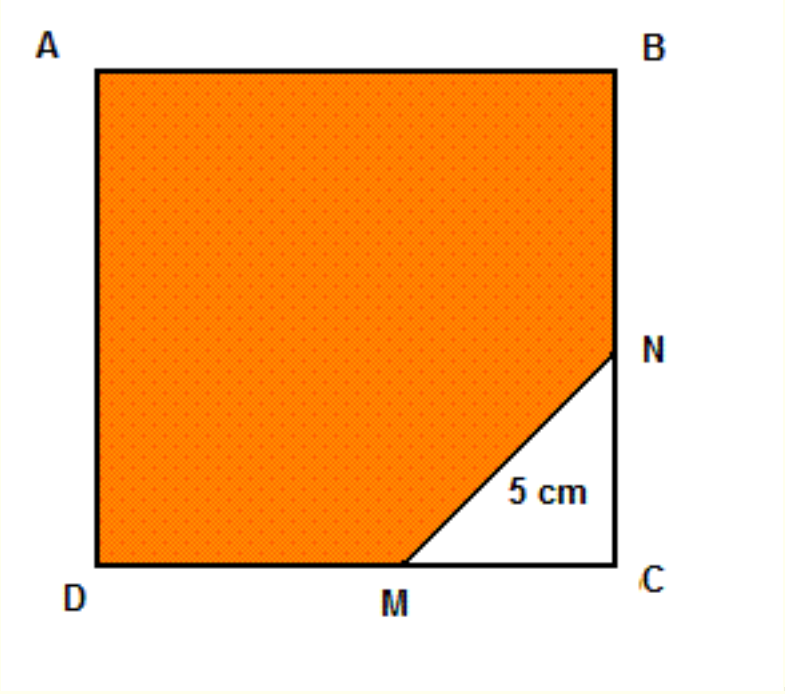
7. Each dimension of a cube has been increased to twice its original size. If the new cube has a volume of 64,000 cubic centimeters, what is the area of one face of the original cube?

8. Pump A can fill a tank of water in 5 hours. Pump B can fill the same tank in 8 hours. How long does it take the two pumps working together to fill the tank?(round your answer to the nearest minute).

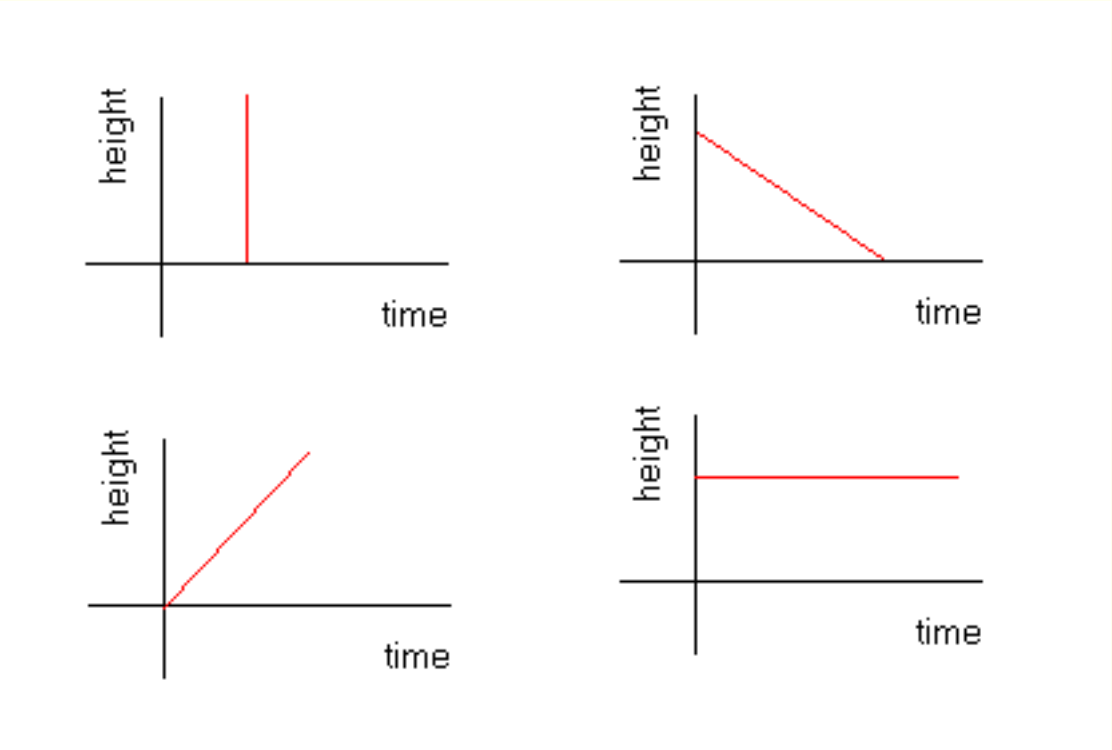
9. A water tank, having the shape of a rectangular prism of base 100 square centimeters, is being filled at the rate of 1 liter per minute. Find the rate at which the height of the water in the water tank increases. Express your answer in centimeters per minute.

10. Dany bought a total of 20 game cards some of which cost $0.25 each and some of which cost $0.15 each. If Dany spent $4.2 to buy these cards, how many cards of each type did he buy?

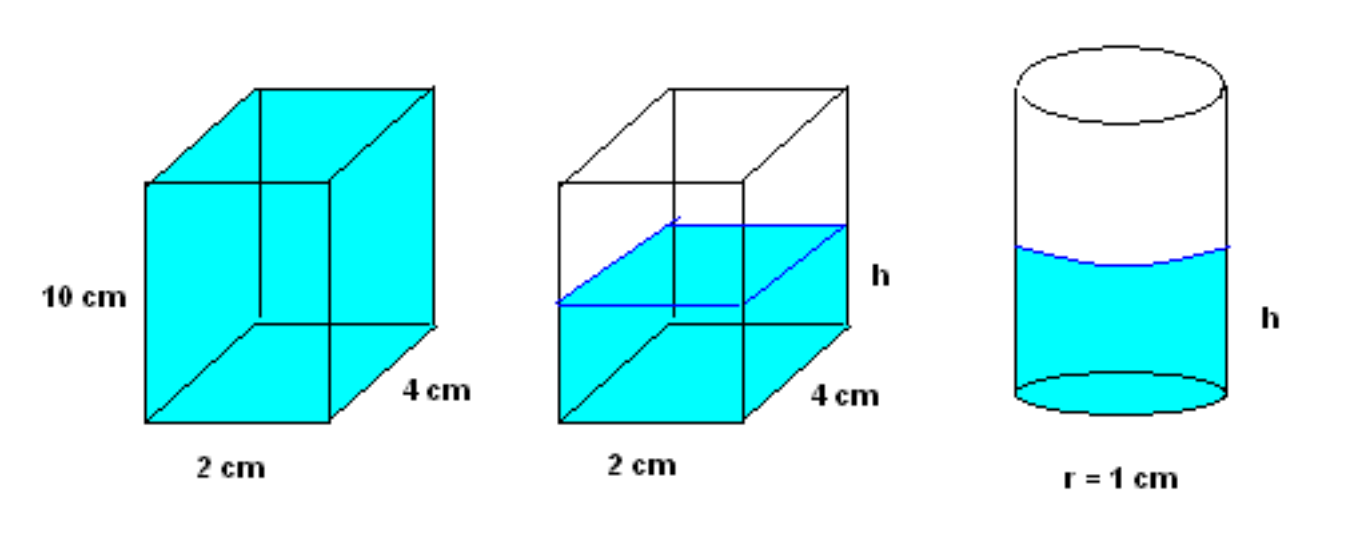
11. The size of the perimeter of the square ABCD is equal to 100 cm. The length of the segment MN is equal to 5 cm and the triangle MNC is isosceles. Find the area of the pentagon ABNMD.



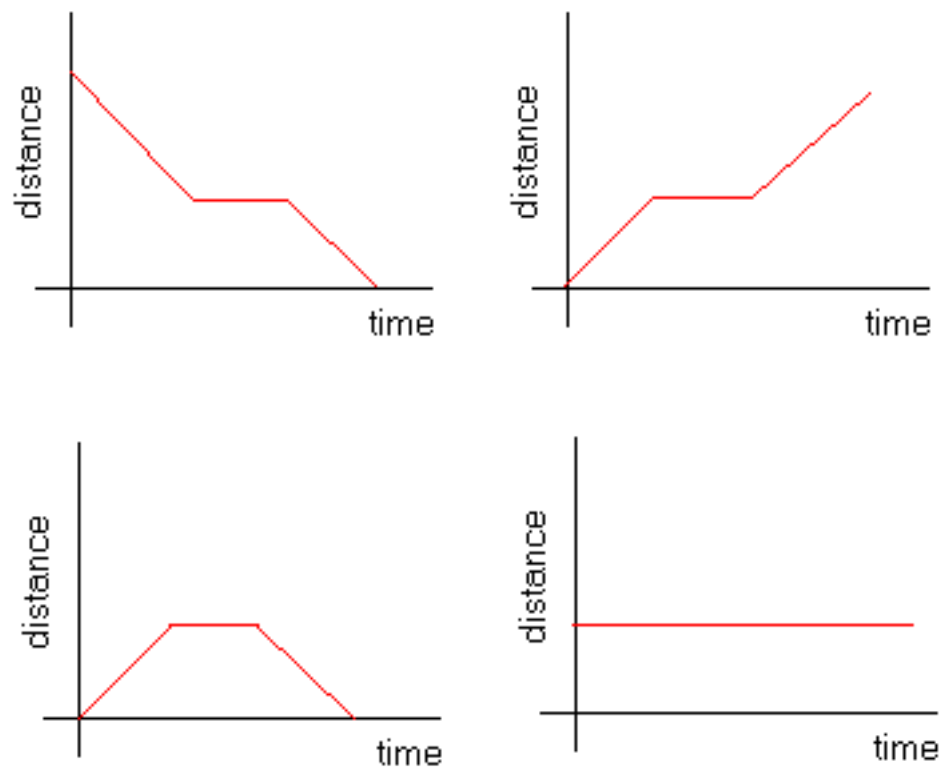
12. Water is being pumped, at a constant rate, into an underground storage tank that has the shape of a rectangular prism. Which of the graphs below best represent the changes in the height of water in the tank as a function of the time?



13. Initially the rectangular prism on the left was full of water. Then water was poured in the right cylindrical container so that the heights of water in both containers are equal. Find the height h of water in both containers.(round your answer to the nearest tenth of a cm).



14. Peter drove at a constant speed for 2 hours. He then stopped for an hour to do some shopping and have a rest and then drove back home driving at a constant speed. Which graph best represents the changes in the distance from home as Peter was driving?



15. Two balls A and B rotate along a circular track. Ball A makes 2 full rotations in 26 minutes. Ball B makes 5 full rotation in 35 minutes. If they start rotating now from the same point, when will they be at the same starting point again?

16. In a certain college, 40% of the senior class students is taking Physics, 30% is taking calculus and 10% is taking both. If 40 students are enrolled in the senior class, how many students are taking neither Physics nor calculus?

17. Joe drove at the speed of 45 miles per hour for a certain distance. He then drove at the speed of 55 miles per hour for the same distance. What is the average speed for the whole trip?

18. If the radius of a cylindrical container is doubled, how do you change the height of the container so that the volume will stay the same?

19. One leg of a right triangle is 18 cm and its area is 108 square cm. Find its primeter.

20. What is the sum of the sizes of the interior angles of a polygon with 53 sides?

21. Jack is taller than Sarah but shorter than both Malika and Tania. Malika is shorter than tania. Natasha is shorter than Sarah. Who is the shortest?

22. What is the height (one of the legs) and the hypotenuse of an isosceles right triangle that has an area of 800 square feet?

23. Find the circumference of a circle inscribed inside a square with a side of 20 meters.

24. Two different schools (A and B) have the same number of pupils. The ratio of the boys in school A and the boys in school B is 2:1 and the ratio of the girls in school A and the girls in school B is 4:5. Find the ratio of the boys in school A to the girls in school A.

25. A water tank has the shape of a rectangular prism of base 50 cm^2. This tank is being filled at the rate of 12 liters per minutes. Find the rate at which the height of the water in the water tank increases; express your answer in millimeters per second.

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26. One pump fills a tank two times as fast as another pump. If the pumps work together they fill the tank in 18 minutes. How long does it take each pump working alone to fill the tank?

Answers to the Above Questions

1. 60 miles per hour
2. 0.25
3. 20 meters
4. 1/3
5. (-3,-4)
6. 300 square meters
7. 400 square cm
8. 3 hours and 5 minutes
9. 10 cm per minute
10. 12 cards at $0.25 and 8 cards at $0.15
11. 618.75 square cm
12. graph at the bottom left
13. 7.2 cm
14. graph at the bottom left
15. After 1 hour and 31 minutes
16. 16 students
17. 49.5 miles per hour
18. 1/4 of the original height
19. 51.6 cm
20. 9180 degrees
21. Natasha
22. height (leg) = 40 feet , hypotenuse = 40 sqrt(2) feet
23. 20pi meters
24. ratio of the boys in school A to the girls in school A is 1:2
25. 40 mm/second
26. faster pump: 27 minutes, slower pump: 54 minutes

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