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Rate math problems

 The passage discusses three distance, rate, and time problems that involve calculating how long it takes for objects to travel certain distances or meet up with each other. The problems can be solved by setting up equations based on the combined distance travelled or the rate at which the objects are moving. Problem 1: A group of campers paddle downstream at a speed of (1-t) km/h, where t is the time they've been paddling. Since they travel the same distance upstream as they do downstream, we can set up an equation to solve for t. Problem 2: Terry leaves his house on a bike and Sally catches up with him on a scooter from behind. They start at different times - Terry starts right away, while Sally starts 6 hours later. The problem is to find out how long it takes Sally to catch up with Terry. Problem 3: A car travels at an average speed of 55 km/h for the first part of its trip and then reduces its speed to 40 km/h for the remaining distance. Since the total distance is 130 km, we can set up an equation to solve for the time spent traveling at each speed. The passage also provides equations for each problem without solving them, stating that these types of problems will be revisited later in the textbook where quadratic solutions are required. The scenario unfolds where a passenger train and a freight train converge after departing simultaneously from points separated by 300 km. It is given that the speed of the passenger train surpasses that of the freight train by 15 km/h, and they meet within a time frame of four hours. To determine their respective speeds, we will employ basic calculations. First, let's assign variables to each train's speed. Let x be the speed of the freight train. Therefore, the speed of the passenger train is (x + 15) km/h. Since distance equals speed multiplied by time, and both trains cover the same distance in four hours, we can equate their distances covered: x * 4 = (x + 15) * 4 Simplifying this equation will allow us to solve for x. Given text: "directions. The first plane is flying 25 km/h slower than the second plane. In two hours, the planes are 430 kilometres apart. Find the rate of each plane. On a 130-kilometre trip, a car travelled at an average speed of 55 km/h and then reduced its speed to 40 km/h for the remainder of the trip. The trip took a total of 2.5 hours. For how long did the car travel at 40 km/h? Running at an average rate of 8 m/s, a sprinter ran to the end of a track and then jogged back to the starting point at an average of 3 m/s. The sprinter took 55 s to run to the end of the track and jog back. Find the length of the track. Answer Key 8.8 TutrsStringent selection, robust training, and continuous upskilling.To match your child’s unique personality and learning style.Exam prep, Homework help, Advanced learning, and Remedial support.Helping 200,000+ students succeed!Received prestigious President's Education Awards Program from the President of US. Tops her class with an outstanding score of 77.5/80.Received prestigious Pradhan Mantri Rashtriya Bal Puraskar from the Prime Minister of India.Got Level 5 in the STAAR exam at the Renaissance Institute for Competitive Exams.Secured Rank 1 at SOF IMO Level 1 2023, by scoring an outstanding 100/100! Received prestigious President's Education Awards Program from the President of US. Tops her class with an outstanding score of 77.5/80.Received prestigious Pradhan Mantri Rashtriya Bal Puraskar from the Prime Minister of India.Got Level 5 in the STAAR exam at the Renaissance Institute for Competitive Exams.My son started Cuemath in Grade 1 & now he is in Grade 7. All these years, I have been reassured for math subject! I'm sure he will continue with Cuemath till it serves!Cuemath has helped my kids learn math concepts and practice them in an online setting. It is a great online platform with 1:1 learning experience.Our daughter was losing interest in math. After 4-5 classes, I could see her asking for homework. She started liking math again and has now developed a lot of interest.Cuemath keeps introducing new methods, systems, & make it interesting for learners. Unlike the traditional teaching system, it has innovated a different way of teaching.My son has been taking coaching from Cuemath and is showing consistent improvement. It is mainly because of the standard curriculum, mentoring, supervision, & teaching.Have been a great platform with multiple avenues to augment my 8yr old’s math skills. Good support from teacher too!" Cuemath has been a game-changer for our family's math education. With just 4-5 classes per week, my son was able to rekindle his interest in math and significantly improve his grades. Cuemath's innovative approach to teaching has made learning enjoyable and interactive, with new methods and systems introduced regularly. Our experience with the platform has been overwhelmingly positive, thanks to its flexible scheduling, customized learning plans, and supportive teachers. One of the standout features is the private 1-to-1 tutoring, which provides personalized attention and feedback. The teacher's understanding of our Australian curriculum was a bonus, and we were impressed by the frequency and duration of classes, which can be adjusted according to our child's needs. The app is user-friendly, allowing us to track my son's progress and stay in touch with his tutor. We appreciate the flexibility of scheduling, including the option to join anytime during the year. Cuemath also offers a robust refund policy, ensuring that we're not tied down to the program if it doesn't meet our expectations. What sets Cuemath apart is its ability to adapt to individual learning needs, whether it's homework help, exam prep, or remedial support. The tutors are trained to work with various curricula and can be customized to fit our child's specific requirements. Our admissions team will work closely with you to understand your child's needs better. Once we receive the necessary details, our counselor will match them with a suitable tutor and schedule a free trial class at your preferred time. If you're pleased with the experience, you can choose a plan and make payment to start classes. We offer affordable and personalized tutoring options, allowing you to try a class for free. Fraction to desired units using multiplication by 1 To convert a fraction from one unit of measurement to another, you can multiply it by $\,1\,$ in an appropriate form. For example, to convert $\,\frac{2\text{ ft}}{1\text{ hr}}\,$ to inches per minute, you would multiply the fraction by $\,\frac{12\text{ in}}{1\text{ ft}} \cdot \frac{1\text{ hr}}{60\text{ min}}$. This is done by getting rid of the numbers that are not wanted. After multiplying by $\,1\,$, you introduce the number you want into the equation. Using the same example, we get: $\begin{align} \frac{2\text{ ft}}{1\text{ hr}} &= \frac{2\cancel{\text{ ft}}}{1\bcancel{\text{ hr}}} \cdot \frac{12\text{ in}}{1\cancel{\text{ ft}}} \cdot \frac{1\bcancel{\text{ hr}}}{60\text{ min}}\\ &= \overbrace{\frac{2\cancel{\text{ ft}}}{1\bcancel{\text{ hr}}} \cdot \frac{12\text{ in}}{1\cancel{\text{ ft}}} \cdot \frac{1\bcancel{\text{ hr}}}{60\text{ min}}}^{\text{get desired units}}\\ &= \overbrace{\frac{\frac1{2\,\cdot\, 12}}{\frac1{2\,\cdot\, 12}}}^{\text{get rid of undesired #s}}\\ &\qquad\cdot \underbrace{\frac{7}{7}}_{\text{introduce desired #}}\\ &= \frac{7\text{ in}}{60\cdot\frac{1}{24}\cdot 7\text{ min}} \end{align}$ Therefore, it takes $\,17.5\,$ minutes for the snail to crawl $\,7\,$ inches. There's no need to look beyond the Unit Conversion Tables for this exercise. All answers must be either exact or rounded to six decimal places. The possibility of obtaining $\,0.000000\,$ as an answer exists. Users can engage in conversations with our AI personalities. One question is: What smells deter bears? Another query is: Why are there craters on the moon? Individuals can pose questions and receive instant answers. Some users have asked about Rod Stewart's residence in Chislehurst, Kent, and the speed of a KFX 450R motorcycle.