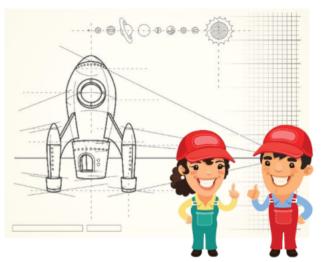
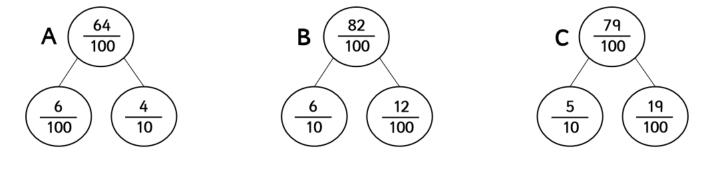
Reasoning and Problem Solving - Decimals



Kendra and her team have been hard at work for months designing a new rocket at the National Agency of Space Exploration.

Now that the plans are in place, it is finally time to prepare for the first official test run!

1. Pedro is checking over the blueprints and notices that some of the calculations are incorrect. Find and fix the mistakes.



2. Next, he must order windows for the observation deck. The thicker the window is, the safer it will be for the astronauts inside. He is given three options. Fill in the missing values to determine the window widths he has to choose from. All values are measured in mm. Write the width of each window as a decimal.

22 tenths	<	mm	<	2 wholes and 4 tenths
5 tenths	<	mm	<	7 tenths
4 wholes and 4 tenths	<	mm	<	46 tenths

Which window is the safest choice? Explain why.

3. While Pedro is ringing the window company, Kendra has a look at the control board. Several switches and buttons are yet to be installed. "These
are all out of order!" she mumbles. Here are the buttons she takes off:
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Help Kendra sort the control board by converting the values to decimals and re-installing the buttons in the correct order.
Which buttons is she missing to complete the sequence?
4. Now that the control board is sorted, it is extremely important for every seat to be fitted with a seat belt. There are 10 seats in the control room that need seatbelts. All seatbelts on the rocket should be at least 70 cm long. Reams of seatbelts come in lengths of 4m, 6m and 9m. Which ream should
be purchased for the rocket so that all 10 seats are fitted appropriately?
5. Some of the team are measuring the efficiency of the backup reserve fuel tank to make sure the flight crew will be able to handle an emergency. If the rocket burns 11 of fuel travelling 10 light years, how many litres of fuel will it burn travelling 75 light years?

6. After running some tests, Pedro dis outputting data accurately. Fix the err	•
6 tenths and 12 hundredths = 6.12	
8 tenths and 27 hundredths = 27.8	
14 tenths and 24 hundredths = 3.8	
7. Someone has misplaced the instruct control board! "Oh dear! I'll have to fi codes using these digits and this grid. 5 0 2 3 Place one digit card in either the ones	gure out all the potential launch " says Kendra. O • T H
"I remember reading that, when added	d together, the two launch codes
equal 7.82," thinks Kendra. If this is t	3
8. The launch codes worked and the real This test will confirm if the rocket is fix everything goes smoothly on the test of distances communicated back to the the book requires them to be recorded in kneed the record it in the log book in metres to describe the second in the log book in metres to describe the record it in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the second in the log book in metres to describe the log book in the log boo	t for exploratory missions. Nearly run; the only problem is that all the eam are given in metres, but the log cilometres. Convert each distance and

Minute	Distance in m	Distance in km	Minute	Distance in m	Distance in km
Minute 1	100 metres		Minute 4	170 metres	
Minute 2	120 metres		Minute 5	230 metres	
Minute 3	150 metres		Minute 6	250 metres	