

Why Are Astronauts Able to Ride Horses at Night?

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Use the formula given for each set of exercises. Find each answer in the answer columns. Write the letter of the answer in the box containing the problem number.



$$d = rt$$

where

d = distance traveled by a moving object
 r = rate of speed
 t = time the object travels

1. Find d if $r = 2.4$ m/s; $t = 18$ s.
2. Find r if $d = 50$ mi; $t = 8.5$ h.
3. Find t if $d = 2000$ m; $r = 72$ m/min.
4. A skydiver is falling at a speed of 176 ft/s. How far will he fall in 2 min?
5. The space shuttle makes an Earth orbit of 25,390 mi in 1.4 h. What is the shuttle's average speed?

$$E = rt$$

where

E = total amount of money earned
 r = rate of pay
 t = time worked

11. Find E if $r = \$21.50$ /h; $t = 44$ h.
12. Find r if $E = \$940$; $t = 80$ h.
13. Find t if $E = \$5000$; $r = \$32$ /h.
14. Mr. Smork earns \$630 for a 37.5-hour work week. What is his pay per hour?
15. Finnegan earns \$9.50 per hour at his part-time job. How many hours must he work to earn \$100?

$$F = rt$$

where

F = total amount of a flowing liquid
 r = rate at which the liquid flows
 t = time the liquid flows

6. Find F if $r = 75$ gal/h; $t = 90$ min.
7. Find r if $F = 83$ L; $t = 5$ s.
8. Find t if $F = 300$ gal; $r = 2.25$ gal/s.
9. Water flows into a swimming pool at a rate of 18 gal/min. The pool holds 1125 gal. How long will it take to fill the pool?
10. A water faucet is dripping at the rate of 30 fl oz/h. How many gallons are wasted in 1 day? (128 fl oz = 1 gal).

$$d = rf$$

where

d = distance traveled (burning fuel)
 r = rate of fuel consumption
 f = amount of fuel used

16. Find d if $r = 19.4$ mpg; $f = 166$ gal.
17. Find r if $d = 360$ km; $f = 29$ L.
18. Find f if $d = 70$ km; $r = 5.2$ km/L.
19. Zelda's car gets an average of 28 mpg. The gas tank holds 18.7 gal. How far can Zelda travel on one tank of gas?
20. WORLD RECORD: Jay Lowe and Ted Jacobs drove 7,299.3 mi using 163.4 gal of gasoline. How many miles per gallon did they get?

Answers 1-10	O. 128.5 s	S. 62.5 min	I. 20,850 ft	Answers 11-20	D. 13.5 L	N. 541.7 mi	H. 3220.4 mi
	G. 27.8 min	D. 43.2 m	O. 17.4 L/s		R. 162.5 h	H. 156.25 h	P. 11.2 h
	I. 16.6 L/s	R. 18,744 mph	E. 133.3 s		L. 10.5 h	S. 44.7 mpg	E. \$11.75 /h
	A. 5.6 gal	V. 112.5 gal	A. 21,120 ft		W. 3112.5 mi	T. 12.4 km/L	L. 523.6 mi
	E. 18,136 mph	U. 6.1 gal	H. 5.9 mph		T. \$946	O. 12.9 L	Y. \$16.80 /h

11	2	8	14	16	4	6	12	20	10	1	18	15	5	19	7	3	13	17	9
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