

7. Simplify the following algebraic expressions.

(a) $11 \times a =$ _____

(b) $22b \times 4 =$ _____

(c) $13 \times 3c \times 3 =$ _____

(d) $d \times d =$ _____

(e) $10e \times 5 \times 2e =$ _____

(f) $10f \times f \times 6f =$ _____

(g) $16 \times 2g + 2g =$ _____

(h) $h \div 18 =$ _____

(i) $j \times j \div 9 =$ _____

(j) $20k + k \div 10 =$ _____

8. Fill in the boxes with the missing signs (+, -, \times or \div).

(a) $4a = 2a \square 2$

(b) $6b^2 = 3b \square b \square 2$

(c) $3c = c \square c \square c$

(d) $12d^2 = (2d \square 2d) \square 3d$

(e) $8e = 4 \square 4e \square 4e \square 4e$

(f) $\frac{f}{36} = f \square 36$

(g) $\frac{9+g}{5} = (3 \square 3 \square 3 \square g) \square 5$

(h) $\frac{20-h}{4} = (10 \square 10 \square h) \square (2 \square 2)$

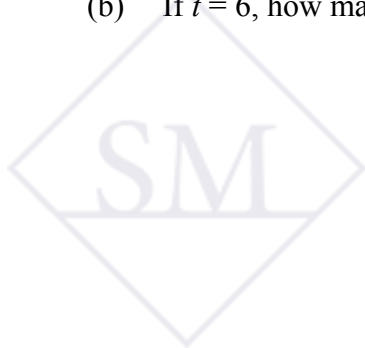
WORD PROBLEMS



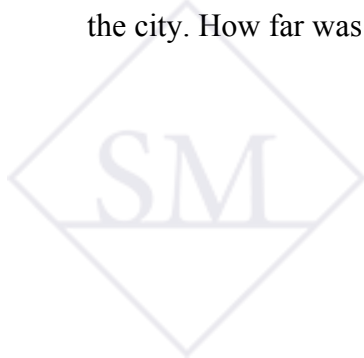
1. 11 boxes of cookies, each containing t cookies, were sold.

(a) How many cookies, in terms of t , were sold altogether?

(b) If $t = 6$, how many cookies were sold in all?



12. Mindy started jogging at the same time as Mork started walking. They started from the same spot, but they went opposite ways. 3 hours after they had started, they were 54 km apart. If Mindy jogged 1.2 km/h faster than the average speed at which Mork walked, what was Mork's average walking speed?
13. Near City is 635 km away from Far City. Mr. Louis set off from Near City at 8:20 am for Far City, driving at an average speed of 70 km/h. Mr. Gordon left Far City for Near City 30 minutes later, traveling along the same road at an average speed of 80 km/h. At what time did the 2 drivers pass each other?
14. After driving half the way from the city to the zoo, I passed a tour bus traveling at an average speed of 78 km/h in the opposite direction from the zoo to the city. When I reached the zoo 20 minutes after passing the bus, it was still 14 km from the city. How far was the zoo from the city?



13. Mr. Tow takes 30 minutes to reach his office from his home if he travels at an average speed of 75 km/h. How far is his office from his home?
 (1) 2250 km (2) 150 km
 (3) 37.5 km (4) 2.5 km ()
14. Matt plucked 18 papayas from each of the 5 papaya trees in his garden. He gave away 30% of those plucked. How many papayas did he give away?
 (1) 23 (2) 27
 (3) 63 (4) 90 ()
15. A truck takes $\frac{1}{2}$ hour more than a car to travel a distance of 125 mi. If the speed of the truck is 50 mi/h, what is the speed of the car?
 (1) 100 mi/h (2) $62\frac{1}{2}$ mi/h
 (3) $41\frac{2}{3}$ mi/h (4) 25 mi/h ()

Section B

Questions 16 to 35 are worth 1 point each. Write your answers in the spaces provided. Give your answers in the units stated. [20 points]

16. Simplify $9x + 8 - 5x - 2 + 2x$.

Answer: _____

17. Express as a ratio 400 ml to 2 l in its simplest form.

Answer: _____

18. Express 3 km as a percentage of 600 m.

Answer: _____%

19. I spent \$180 in March. In April, I spent 20% less. How much did I spend in April?

Answer: \$ _____

20. Mrs. Nice spent \$96 in her shopping this week. This is 60% of what she spent last week. How much did she spend altogether in these 2 weeks?

Answer: \$ _____