

$$3000 + 0.18(T - 4500)T$$

$10,000 = ?$
 4500

Name _____

Date _____

Write as an algebraic expression.

$$3000 \left| \begin{array}{l} 10,000 = T \\ + \\ 0.18(5500) \end{array} \right.$$

1. A sales firm pays their employees \$3000 a month (and) a commission of 18% of their total sales (T) over \$4500. Which of the following equations represents the sales person's total monthly income (I)?
 - a) $I = 3000 + 0.18T - 4500$
 - b) $I = 3000 + 1.18(T - 4500)$
 - c) $I = 3000T + 0.18(4500 - T)$
 - d) $I = 1500 + 1.18T$
 - e) $I = 3000 + 0.18(T - 4500)$

2. A sales firm pays their employees \$2500 a month and a commission of 30% of their total sales (T) over \$6500. Which of the following equations represents the sales person's total monthly income (I)?
 - a) $I = 2500 + 0.3T - 6500$
 - b) $I = 2500 + 0.3(T - 6500)$
 - c) $I = 2500 + 1.3(T - 6500)$
 - d) $I = 2500T + 6500$
 - e) $I = 1.3T - 6500$

3. At a particular store, compact discs cost \$14.00 for the first one and \$12.00 for each additional one. If Marnie spends D dollars on N compact discs, then what is the relationship between D and N ?
 - a) $D = 14 + 12(N - 1)$
 - b) $D = 14N + 12(N - 1)$
 - c) $D + 14 = 12(N - 1)$
 - d) $D = 14 + 12N$
 - e) $D = 14 + 12(N + 1)$

4. At a particular store, T-shirts cost \$12.00 for the first one and \$9.00 for each additional one. If Tara spends D dollars on N T-shirts, then what is the relationship between D and N ?
 - a) $D = 12N + 9(N - 1)$
 - b) $D + 12 = 9(N - 1)$
 - c) $D = 12 + 9(N - 1)$
 - d) $D = 12 + 9N$
 - e) $D = 12 + 9(N + 1)$

5. The cost of renting a car is \$36.00 a day plus \$0.26 for every kilometre after the first 100 km. What is the equation that represents the cost, C , of renting a car for d days and k kilometres (assume k is greater than or equal to 100)?
 - a) $C = 36d + 0.26k$
 - b) $C = 36d + 0.26(100 - k)$
 - c) $C = 36d + 0.26(k - 100)$
 - d) $C = 36 + 0.26(k - 100)$
 - e) $C = 36d + 26(k - 100)$

6. The cost of renting a full-size car is \$45.00 a day plus \$0.32 for every kilometre after the first 100 km. What is the equation that represents the cost, C , of renting a car for d days and k kilometres (assume k is greater than or equal to 100)?
 - a) $C = 45d + 0.32k$
 - b) $C = 45d + 0.32(100 - k)$
 - c) $C = 45 + 0.32(k - 100)$
 - d) $C = 45d + 32(k - 100)$
 - e) $C = 45d + 0.32(k - 100)$

7. There is a relationship between the weight (w), in kilograms, and the height (h), in centimetres, of a person. This relationship says the weight is estimated by taking three-quarters of the person's height (in centimetres) and subtracting 72. Which of the following equations represents this relationship?
 - a) $w = \frac{3}{4}(h + 72)$
 - b) $w = \frac{4}{3}h - 72$
 - c) $w - 72 = \frac{3}{4}h$
 - d) $w = \frac{3}{4}h - 72$
 - e) $w = \frac{3}{4}(h - 72)$

Write as an algebraic expression.

1. On the planet Mathematica there is a relationship between the weight (w), in kilograms, and the height (h), in centimetres, of a person. This relationship says the weight is estimated by taking five-eighths of the person's height (in centimetres) and subtracting 28. Which of the following equations represents this relationship?

a) $w = \frac{5}{8}(h + 28)$ **b)** $w = \frac{5}{8}h - 28$ c) $w = \frac{8}{5}h - 28$ d) $w - 28 = \frac{5}{8}h$ e) $w = \frac{5}{8}(h - 28)$

2. The cost of renting a VCR is a \$30.00 deposit, plus \$9.50 for each day. Which of the following equations would give the cost, C , of renting a VCR for d days?

a) $C = (\$30.00 + \$9.50)d$ **b)** $C = \$30.00 + \$9.50d$ c) $C + \$30.00 = \$9.50d$
 d) $C = \$30.00 + \$0.95d$ e) $C = \$30.00 + \$9.50 + d$

3. The cost of renting a mountain bike is a \$50.00 deposit, plus \$12.50 for each day. Which of the following equations would give the cost, C , of renting a mountain bike for d days?

a) $C = (\$50.00 + \$12.50)d$ b) $C + \$50.00 = \$12.50d$ c) $C = \$50.00 + \$1.25d$
 d) $C = \$50.00 + \$12.50 + d$ **e)** $C = \$50.00 + \$12.50d$

4. \$90.00 is split among 3 people. Amy receives ^{2L}twice the amount that Laurel receives, and Dominic receives ^{L+10}\$10.00 more than Laurel. If we needed to know how much each person received, which of the following equations could be used to solve the problem?

a) $L + 2(L + 10) + L = 90$ b) $3L + 10 = 90$ **c)** $L + 2L + (L + 10) = 90$
 d) $L + 2L + (2L + 10) = 90$ e) $L + 2L + 2(L + 10) = 90$

5. \$90.00 is split among 3 people. Amy receives ^{3L}3 times the amount that Laurel receives, and the Dominic receives ^{L-15}\$15.00 less than Laurel. If we needed to know how much each person received, which of the following equations could be used to solve the problem?

a) $L + 3L + (L - 15) = 90$ b) $L + 3(L - 15) + L = 90$ c) $3L - 15 = 90$
 d) $L + 3L + (3L - 15) = 90$ e) $L + 3L + 3(L - 15) = 90$

6. \$90.00 is split among 3 people. Alan receives ^{2Z}twice the amount that Zeke receives, and the Donnie receives ^{2Z+10}\$10.00 more than Alan. If we needed to know how much each person received which of the following equations could be used to solve the problem?

a) $Z + 2Z + (Z + 10) = 90$ b) $Z + 2(Z + 10) + Z = 90$ c) $3Z + 10 = 90$
d) $Z + 2Z + (2Z + 10) = 90$ e) $Z + 2Z + 2(Z + 10) = 90$

7. \$90.00 is split among 3 people. Alan receives ^{3Z}3 times the amount that Zeke receives, and the Donnie receives ^{3Z-15}\$15.00 less than Alan. If we needed to know how much each person received which of the following equations could be used to solve the problem?

a) $Z + 3Z + (3Z - 15) = 90$ b) $Z + 3Z + (Z - 15) = 90$ c) $Z + 3(Z - 15) + Z = 90$
 d) $3Z - 15 = 90$ e) $Z + 3Z + 3(Z - 15) = 90$