

Variables and expressions

Grade 5 Pre-Algebra Worksheet

Write an expression to answer each question. State what the variable is. The first one is done for you as an example. (Variables may vary)

| | <u>Expression</u> | <u>Variable</u> |
|---|-------------------|-------------------------------------|
| <i>John scored 3 more points than James. How many points did John score?</i> | $p + 3$ | $p =$ number of points James scored |
| 1. What is the distance in kilometers a car travels in n hours if it moves at a rate of 50km per hour? | _____ | _____ |
| 2. Jenny gave a \$20 bill to the cashier to buy 5 packs of milk powder for \$ m each. How much will her change be? | _____ | _____ |
| 3. Find the number of weeks in t days. | _____ | _____ |
| 4. Rey bought a refrigerator with a down payment of \$200 plus \$ r each month for 6 monthly payments. How much did he spend for the refrigerator? | _____ | _____ |
| 5. Arvin paid \$20 for a white t-shirt after receiving a discount of \$ d . How much is the original price of the white shirt? | _____ | _____ |
| 6. The vacation house manager charges guests a flat rate of \$75 for 24 hours plus an additional \$10 for every extra hour. If a guest extended for e hours, how much will the guest have to pay? | _____ | _____ |
| 7. A gym charges its clients a one-time membership fee of \$48 and \$ b per month. How much will a new client pay for 10 months? | _____ | _____ |
| 8. After y years, Patty will be 26 years old. How old is Patty now? | _____ | _____ |
| 9. Tim is 4 years less than three times the age of Ariel. How old is Tim? | _____ | _____ |
| 10. If the width of a rectangle is 7 centimeters shorter than three times its length, how wide is its width? | _____ | _____ |

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Write an expression to answer each question. State what the variable is. The first one is done for you as an example. (Variables may vary)

| | <u>Expression</u> | <u>Variable</u> |
|---|-------------------|---|
| <i>John scored 3 more points than James. How many points did John score?</i> | $p + 3$ | $p = \text{number of points James scored}$ |
| 1. What is the distance in kilometers a car travels in n hours if it moves at a rate of 50km per hour? | $50n$ | $n = \text{number of hours of travelling}$ |
| 2. Jenny gave a \$20 bill to the cashier to buy 5 packs of milk powder for \$ m each. How much will her change be? | $20 - 5m$ | $m = \text{cost of each pack of milk powder}$ |
| 3. Find the number of weeks in t days. | $\frac{t}{7}$ | $t = \text{number of days}$ |
| 4. Rey bought a refrigerator with a down payment of \$200 plus \$ r each month for 6 monthly payments. How much did he spend for the refrigerator? | $200 + 6r$ | $r = \text{monthly payment}$ |
| 5. Arvin paid \$20 for a white t-shirt after receiving a discount of \$ d . How much is the original price of the white shirt? | $20 + d$ | $d = \text{amount of discount}$ |
| 6. The vacation house manager charges guests a flat rate of \$75 for 24 hours plus an additional \$10 for every extra hour. If a guest extended for e hours, how much will the guest have to pay? | $\$75 + 10e$ | $e = \text{number of hours extension}$ |
| 7. A gym charges its clients a one-time membership fee of \$48 and \$ b per month. How much will a new client pay for 10 months? | $48 + 10b$ | $b = \text{amount to pay each month}$ |
| 8. After y years, Patty will be 26 years old. How old is Patty now?? | $26 - y$ | $y = \text{number of years}$ |
| 9. Tim is 4 years less than three times the age of Ariel. How old is Tim? | $3a - 4$ | $a = \text{age of Ariel}$ |
| 10. If the width of a rectangle is 7 centimeters shorter than three times its length, how wide is its width? | $3l - 7$ | $l = \text{length of the rectangle}$ |