**Write an algebraic expression for the word expression.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1.** | The quotient of$y$and 14 | **2.** | The sum of 15 and theproduct of 5 and $z$ | **3.** | Twice a number increased by 13. |
|  |  |  |  |  |  |
| **4.** | The sum of 7 and the product of 2 and $x$ | **5.** | 16 decreased by $x$ | **6.** | A number $x$ divided by 4 |

**Write the word expression for each algebraic expression.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **7.** | $$x-6$$ | **8.** | $$c-4$$ | **9.** | $$k^{3}+5$$ |
|  |  |  |  |  |  |
| **10.** | $$3k^{2}$$ | **11.** | $$2a+6$$ | **12.** | $$\frac{x+4}{3} or (x+4)÷3$$ |

**Write an expression to match the words.**

|  |  |  |
| --- | --- | --- |
| **13.** | Alan had 9 fish and bought some more.  |  |
| **14.** | Represent the total number of calories in $x$ peanuts and $y$ potato chips if each peanut contains 5 calories and each potato chip contains 10 calories. |  |
| **15.** | Karen spent $300 on jacket and jeans. If she spent $ y$ dollars for the jacket, represent the amount she spent for the jeans. |  |
| **16.** | If a plane travel $ 600$ kilometers per hour, represent the distance it will travel in $k $hours. |  |

**Use a bar model to represent each expression.**

|  |  |  |
| --- | --- | --- |
| **17.** | $$x+5$$ |  |
| **18.** | $$\frac{y}{4}$$ |  |

**Evaluate each expression for the given values of the variable.**

|  |  |  |  |
| --- | --- | --- | --- |
| **19.** | $$65-\left(x-y\right)=$$$$x=25 y=12$$ | **20.** | $$5k+j^{2}\left(72-3k\right)=$$$$k=15 y=10$$ |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **21.** | $$ \frac{2x+3y}{10}-\left(4x-3y\right)=$$$$x=15 y=10$$ | **22.** | $$ 3a+4b-\left(a+b\right)^{2}=$$$$a=10 b=6$$ |
|  |  |  |  |

**ANSWERS**

**Write an algebraic expression for the word expression.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1.** | The quotient of$ y$and 14 | **2.** | The sum of 15 and theproduct of 5 and $ z$ | **3.** | Twice a number increased by 13. |
|  | $$\frac{y}{14} or y÷14$$ |  | $$15+5z$$ |  | $$2h+13$$ |
| **4.** | The sum of 7 and the product of 2 and $ x$ | **5.** | 16 decreased by $ x$ | **6.** | A number $ x$ divided by 4 |
|  | $$7+2x$$ |  | $$16- x$$ |  | $$\frac{x}{4} or x÷4$$ |

**Write the word expression for each algebraic expression.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **7.** | $$x-6$$ | **8.** | $$c-4$$ | **9.** | $$k^{3}+5$$ |
|  | The difference of a number $ x$ and 6 |  | A number $ c$ take away 4 |  | $k$ cubed increased by 5 |
| **10.** | $$3k^{2}$$ | **11.** | $$2a+6$$ | **12.** | $$\frac{x+4}{3} or (x+4)÷3$$ |
|  | 3 times $ k$ squared |  | 6 more than the product 2 times $ a$ |  | The sum of a number $ x$ and 4, all divided by 3 |

**Write an expression to match the words.**

|  |  |  |
| --- | --- | --- |
| **13.** | Alan had 9 fish and bought some more.  | $$y-number of new fish$$$Total numbers of fish 9+y$  |
| **14.** | Represent the total numbers of calories in $ x$ peanuts and $ y$ potato chips if each peanut contains 5 calories and each potato chip contains 10 calories. | $$x-number of peanuts$$$$y-number of potato chips$$$Total calories$$ 5x+10y$ |
| **15.** | Karen spent $300 for jacket and jeans. If she spent $ y$ dollars for the jacket, represent the amount she spent for the jeans. | $$y-dollars for jacket$$$Dollars for jeans 300-y$ |
| **16.** | If a plane travel $ 600$ kilometers per hour, represent the distance it will travel in $ k $hours. | $k =travelling time\left(h\right)$$Distance (km)$$ 600\*k$ |

**Use a bar model to represent each expression.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **17.** | $$x+5$$ | $$ x+5$$

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

$$ $$$$ 5 x$$ |
| **18.** | $$\frac{y}{4}$$ | $ \frac{y}{4} $

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

$$ $$$$ y$$ |

**Evaluate each expression for the given values of the variable.**

|  |  |  |  |
| --- | --- | --- | --- |
| **19.** | $$65-\left(x-y\right)=$$$$x=25 y=12$$ | **20.** | $$ 5k+j^{2}\left(72-3k\right)=$$$$k=15 y=10$$ |
|  | $$ 65-\left(x-y\right)=$$$$=65-\left(25-12\right)=$$$$=65-13=$$$$=52$$ |  | $$ 5k+j^{2}\left(72-3k\right)=$$$$=5\*15+10^{2}\left(72-3\*15\right)=$$$$=75+100\*\left(72-45\right)=$$$$=75+100\*27=$$$$=75+2,700=$$$$=2,775$$ |

|  |  |  |  |
| --- | --- | --- | --- |
| **21.** | $$ \frac{2x+3y}{10}-\left(4x-3y\right)=$$$$x=15 y=10$$ | **22.** | $$ 3a+4b-\left(a+b\right)^{2}=$$$$a=10 b=6$$ |
|  | $$ \frac{2x+3y}{10}-\left(4x-3y\right)=$$$$ =\frac{2\*15+3\*10}{10}-(4\*15-3\*10)=$$$$=\frac{30+30}{10}-(60-30)=$$$$=\frac{60}{10}-30=$$$$=6-30=$$$$=-24$$ |  | $$ 3a+4b-\left(a+b\right)^{2}=$$$$= 3\*10+4\*6-\left(10+6\right)^{2}=$$$$= 30+24-\left(16\right)^{2}=$$$$= 30+24-256=$$$$= 54-256=$$$$=- 202$$ |