6.EE.6: Worksheet

Solutions

1. What types of numbers can the variable in the equation $2a + 3 = 7$ take? Any number.

2. We multiply 5 by a number and then add 11. What expression would this look like? $5a + 11$

3. In a class of twelve, some students got sick, so only three could come to class. What equation or expression could you write for this situation? $12 - s = 3$

4. In the expression $7x + 3$, the variable x represents the number of cats we want to adopt. What types of numbers could x be? Positive, whole numbers.

5. Regina wanted an increase in her weekly allowance from \$5 to \$10, but her parents did her one better. Instead, Regina rolls a fair, six-sided die every week, and her allowance for that week will be the number she rolls multiplied by 2. What expression could we write for Regina's weekly allowance? Define your variable and list what types of numbers the variable can be.

   We can write the expression $2d$, where d represents the number on the die that Regina rolls that week. The number can be 1, 2, 3, 4, 5, or 6.

6. As part of her magic show, Maggie the Mediocre tells a volunteer to pick a whole number between 1 and 25, and she'll guess it using ESP. Being mediocre, Maggie always guesses a number that's 2 greater than the volunteer's actual pick. What expression could we write for the number that Maggie the Mediocre guesses? Define your variable and list what types of numbers the variable can be.

   We can write the expression $n + 2$, where n represents the number that the volunteer chooses. It can be a whole number between 1 and 25.

7. Andrew has seventeen of the same exact coin in his pocket and he wants to figure out how much money he has. What expression could we write for the amount of money that Andrew has in dollars? Define your variable and list what types of numbers the variable can be.

   We can write the expression $17c$, where c represents the value of a particular coin. All 17 coins could be pennies, nickels, dimes, quarters, half-dollars, or dollar coins. That means the value of c can be only 0.01, 0.05, 0.1, 0.25, 0.5, or 1.

8. Sammy destroys five zombies in the morning and some more in the afternoon. At the end of the day Sammy has destroyed a total of 11 zombies. Write an equation that represents this situation. Define your variable and list what types of numbers the variable can be.

   We can set up the equation $5 + z = 11$, where z represents the number of zombies Sammy destroyed in the afternoon. Our variable z can only take on whole number values.

9. Hannah buys a book that costs a certain amount. For tax, the bookstore adds 1 dollar to the price. Hannah has a coupon that gives her 50% off after tax, so they reduce the price accordingly. If Hannah has to pay a total of \$6 for the book after tax and after her discount, write an equation that represents this situation. Define your variable and list what types of numbers the variable can be.

   We can set up the equation $\frac{b+1}{2}$, where b is the price of the book Hannah bought. The variable needs to be a positive number that must end at the hundredths place (since we can't have anything smaller than a cent).

10. Harry works as a mannequin arranger for Mannequins "R" Us. He earns 9 dollars per hour and made a total of \$270 last month. Write an equation that represents this situation. Define your variable and list what types of numbers the variable can be.

    We can set up the equation $9h = 270$, where h is the number of hours Harry worked during the past month. The variable needs to be a positive number that (based on the other values in the equation) is most likely whole.