Unit 6 Exam (PRACTICE)

Linear Equations and Graphing

Short Answer

1. Akilah thinks of a number. She divides the number by 5, then adds 4 to it. The answer is 21. Write an equation for the problem.

2. Expand. $-5(4+y)$

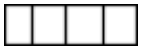
3. Vanessa chose an integer. She subtracted 6, then multiplied the difference by 5. The product was 3. What integer did Vanessa start with?

4. One-tenth of the students at LJH went on holidays for spring break. Six teachers also went on holidays. In total there was 56 people that went on holidays. What equation could be used to solve for the number of students at LJH?

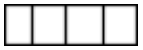
5. The ordered pair (6, y) is in the linear relation with equation $y = -2x + 8$. Find the missing number in the ordered pair.

Numerical Response: Write your solution in the spaces provided. Write your answer from left to right and leave any unused boxes blank.

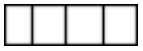
1. Solve $14 - 2p = -13$



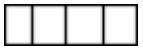
2. Solve $\frac{m}{-5} + 9 = -3$



3. Solve $-3(3s - 9) = 9$



4. The ordered pair (x, -48) is in the linear relation with an equation $y = -14x - 20$. Find the missing number in the ordered pair.



Short Answer:

1. Terry has some tulip bulbs to share with her friends. If Terry doubles the number of bulbs, then adds 3 more, she will have enough bulbs to give herself and 8 friends one bulb each. To find out how many tulip bulbs Terry has, you could solve the equation $2b + 3 = 9$.

a) What does *b* represent in this equation? **(1 mark)**

b) Solve the equation. Show all the steps you took to solve. **(2 marks)**

c) Verify the solution. Show how you did this. **(1 mark)**

4. Solve each equation. Show all steps. **(2 marks each = 12 marks)**

a) $4 - 2m = 26$

b) $7p + 2 = -12$

c) $\frac{v}{9} - 12 = -4$

d) $19 + \frac{t}{4} = 15$

e) $6(x - 2) = 36$

f) $-5(s - 7) = 18$

5. Ramon sells hot dogs at the park. Each week, he pays $140 for an operating license. He makes a $2 profit for each hot dog he sells. An equation for the relation is $P = 2n - 140$, where n represents the number of hot dogs Ramon sells, in one week, and P represents his weekly profit in dollars.

a) Fill in the following table of values for the relation. (1 mark)

n	***P***
0	
20	
40	
60	
80	
100	
120	

b) Graph the relation on the provided grid paper on the back side of this page (3 marks)

c) One week, Ramon sold 175 hot dogs. How much profit did he make? (1 mark)

d) One week, Ramon broke even. How many hot dogs did he sell? (1 mark)

f) What is Ramon's profit when he sells 90 hot dogs? (1 mark)