Name: _____ Period: _____ Date: _____

Unit 2 – Solving Equations Test

1. **Solve:** $a + 100 = 11.$

_____

2. **Solve:** $\frac{f}{2} = -162.$

_____

3. **Solve:** $\frac{q+100}{4} = 100.$

_____

4. **Solve:** $18(x + 1) = -54.$

_____

5. **Solve:** $\frac{k}{100} + \frac{k}{100} + 11 = 10.$

_____

6. **Solve:** $3x + 18(x + 1) = 60.$

_____

7. **Solve:** $1100y = 100(y - 3) - 1000.$

_____

8. **Solve:** $2(5x - 1) = 3(x + 11).$

_____

9. **Find the value of y for the value of x given.**

$3y - 9x = 24 \quad ; \quad x = 3$

_____

10. **Solve the equation for the variable given.**

$-3(g - 2f) = 5g \quad ; \quad g$

_____

11. **The windows on a building are proportional to the size of the building. The height of each window is 18 inches, and the width is 11 inches. If the height of the building is 126 feet, what is the width of the building?**

Width = _____

12. **Solve the proportion** $\frac{2x+1}{x+1} = \frac{5}{4}$.

$x =$ _____

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Unit 2 – Solving Equations Test

13. **Convert:**

    15 pounds = _____ grams

14. **Find the unit rate if Randy travelled 348 miles in 6 hours.**

    _____

15. **Alan is making a model building out of sticks. The scale of his building is 1 : 400. If the actual length of the building is 1320 ft., what is the length of the model?**

    Length = _____

16. **The scale of a map is 0.5 inches : 10 km. Find the actual distance corresponding to the map distance of 10 inches.**

    Distance = _____

17. **The sale price of a car is depreciated by 15% after one year. If the initial price of the car is 12,000$, what is the price of the car after one year?**

    Sale Price = _____

18. **65% of what number is 577.2?**

    _____

19. **John estimated the height of a tree to be 45 ft. The actual height of the tree was 58 ft. Find the percent error in the estimation rounded to the nearest percent.**

    Percent Error = _____

20. **The sale price of a smart phone was 150$ when it was launched. After its success, its sale price is now 200$. What is the percent increase in the price to the nearest percent?**

    Percent decrease = _____

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Unit 2 – Solving Equations Test

ANSWERS:

1. **Find the solution of $a + 100 = 11$.**

   ___$a = -89$___

2. **Find the solution of $\frac{f}{2} = -162$.**

   ___$f = -324$___

3. **Find the solution of $\frac{q+100}{4} = 100$.**

   ___$q = 300$___

4. **Find the solution of $18(x + 1) = -54$.**

   ___$x = -4$___

5. **Find the solution of $\frac{k}{100} + \frac{k}{100} + 11 = 10$.**

   ___$k = -50$___

6. **Find the solution of $3x + 18(x + 1) = 60$.**

   ___$x = 2$___

7. **Find the solution of $1100y = 100(y - 3) - 1000$.**

   ___$y = -13$___

8. **Find the solution of $2(5x - 1) = 3(x + 11)$.**

   ___$x = 5$___

9. **Find the value of y for the value of x given.**

   $3y - 9x = 24$; $x = 3$

Unit 2 – Solving Equations Test

___$y = 17$___

10. Solve the equation for the variable given.

$-3(g - 2f) = 5g$; g

___$g = \frac{3f}{4}$___

11. The windows on a building are proportional to the size of the building. The height of each window is 18 inches, and the width is 11 inches. If the height of the building is 126 feet, what is the width of the building?

Width = ___77 inches___

12. Solve the proportion $\frac{2x+1}{x+1} = \frac{5}{4}$.

$x =$ __2__

13. Convert:

15 pounds = __6803.85__ grams

14. Find the unit rate if Randy travelled 348 miles in 6 hours.

_____58 miles/hour_____

15. Alan is making a model building out of sticks. The scale of his building is 1 : 400. If the actual length of the building is 1320 ft., what is the length of the model?

Length = ___3.3 ft.___

16. The scale of a map is 0.5 inches : 10 km. Find the actual distance corresponding to the map distance of 10 inches.

Distance = _____200 km_____

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Unit 2 – Solving Equations Test

17. The sale price of a car is depreciated by 15% after one year. If the initial price of the car is 12,000$, what is the price of the car after one year?

Sale Price = ___10,200$___

18. 65% of what number is 577.2?

___888___

19. John estimated the height of a tree to be 45 ft. The actual height of the tree was 58 ft. Find the percent error in the estimation rounded to the nearest percent.

Percent Error = ____22%____

20. The sale price of a smart phone was 150$ when it was launched. After its success, its sale price is now 200$. What is the percent increase in the price to the nearest percent?

Percent decrease = ____33%_____