Unit 2 Review

Name:_____

7th Grade Math

Simplify.

1. 6y + 3x – x + 2

$6y+2x+2$

2. 2(x – 5) + 7x

$2x-10+7x$

$9x-10$

3. –3(x + 9) – 2 + 5x

$-3x-27-2+5x$

$-3x-29+5x$

$2x-29$

4. 22x – 7 – 2(x – 5) + 13x

$22x-7-2x+10+13x$

$20x+3+13x$

$33x+3$

Solve. Don't forget to SHOW ALL YOUR STEPS!

5. a – 6 = –21

$+6 \quad +6$

$a=-15$

6. –6 – d = 7

$+6 \quad +6$

$-d=13$

$d=-13$

7. $\frac{6f}{6} = \frac{-54}{6}$

$f=-9$

8. $2 \cdot -7 = -\frac{g}{2} \cdot 2$

$-14=-g$

$g=14$

9. $5 = -\frac{1}{3}h - 7$

+7 +7

$12 = -\frac{1}{3}h \cdot \frac{-3}{1}$

$-36 = h$

$-36 = h$

10. $-2 + \frac{m}{4} = -9$

+2 +2

$\frac{m}{4} = -7 \cdot 4$

$m = -28$

11. $-2 = \frac{3}{4}n - 8$

+8 +8

$6 = \frac{3}{4}n \cdot \frac{4}{3}$

$\frac{24}{3} = n$

$8 = n$

12. $3k - 8 = 16$

+8 +8

$\frac{3k}{3} = \frac{24}{3}$

$k = 8$

13. $2m + 12 + 6m = -4$

$8m + 12 = -4$

$-12 \quad -12$

$\frac{8m}{8} = \frac{-16}{8}$

$m = -2$

14. $-2(3x + 6) = 6$

$-6x - 12 = 6$

$+12 \quad +12$

$\frac{-6x}{-6} = \frac{18}{-6}$

$x = -3$

15. $4x - (x - 6) = 30$

$4x - x + 6 = 30$

$3x + 6 = 30$

$-6 \quad -6$

$\frac{3x}{3} = \frac{24}{3}$

$x = 8$

16. $4x - 1 = 6x - 5$

$-2x \quad -2x$

$-1 = 4x - 5$

$+5 \quad +5$

$\frac{4}{4} = \frac{4x}{4}$

$x = 1$

17. $6f - 4 + 7 - f = f - 18 - 3f$

$5f + 3 = -2f - 18$

$+2f \quad +2f$

$7x + 3 = -18$

$-3 \quad -3$

$\frac{7x}{7} = \frac{-21}{7}$

$x = -3$

18. $5 - (2g + 3) - 4 = 3(g + 4) + 2g$

$5 - 2g - 3 - 4 = 3g + 12 + 2g$

$-2 - 2g = 5g + 12$

$+2g \quad +2g$

$-2 = 7g + 12$

$-12 \quad -12$

$\frac{-14}{7} = \frac{7g}{7}$

$-2 = g$

For each of the following, write an equation and show your work for solving it.

19. Christian has a gift card for 48 free movie rentals from Blockbuster (does Blockbuster even exist anymore?). If he went to Blockbuster 8 times and rented the same number of movies each time, how many movies did he get each time? (By the way Christian…I can't believe your favorite movie is Rocky 2, when Rocky 4 is definitely better!)

$\frac{8x}{8} = \frac{48}{8}$

$x = 6$ movies

20. Mr. Cravatta and Mr. Moundros decided to prepare for the school rollerblading race by rollerblading a certain number of miles each day. Mr. Cravatta practiced for 5 days. Mr. Moundros attended a family reunion in East Lansing and could only practice for 3 days. Together, they rollerbladed 32 miles. How many miles did they rollerblade per day?

$5x + 3x = 32$

$\frac{8x}{8} = \frac{32}{8}$

$x = 4$ miles

21. Mrs Sharkey and Mrs Fauson love gumballs. Mrs Sharkey has 7 boxes of gumballs and Mrs Fauson has 4 boxes. Together they have 220 gumballs. How many gumballs are in a box?

$7x + 4x = 220$

$\frac{11x}{11} = \frac{220}{11}$

$x = 20$ gumballs

$11\overline{)220}$ → 20, -22, 00

Answers:

1. $6y + 2x + 2$
2. $9x - 10$
3. $2x - 29$
4. $33x + 3$
5. -15
6. -13
7. -9
8. 14
9. -36
10. -28
11. 8
12. 8
13. -2
14. -3
15. 8
16. 2
17. -3
18. -2
19. $8m = 48$, $m = 6$
20. $5d + 3d = 32$, $d = 4$
21. 20