

Name: _____

Date: _____

Unit 1 - Equations: Review

1. For each term provided, state 2 more like terms.

a) $3x^3$, _____, _____

b. $-2x$, _____, _____

Recall: *To simplify means* _____

2. Simplify the following by combining like terms

a) $4a + 2a$

c) $5x^2 - 2x + 4x^2 - 3x$

e) $5x^2 - 2x + 4 - 3x^2$

b) $5x^2 - 12x^2$

d) $6x^2 + 4x - 5x^2 + 9x$

c) $4g + 6g - 3 + 2g$

3. Expand the following and then collect like terms if necessary.

a) $2(x - 2)$

c) $5(y - 1) + 4(2y + 3)$

b) $3(2x^2 - x) - 1(5x^2 - 6x)$

d) $3(2x - 4)$

Name: _____

Date: _____

Recall: To solve means _____

4. Solve each of the following linear equations

[4]

a) $3x = 24$

c) $k - 4 = 13$

e) $\frac{s}{4} = 5$

g) $3 = 2x + 7$

b) $4x = 22$

d) $y + 2 = 11$

f) $\frac{t}{5} = 30$

h) $2x - 4 = 18$

5. Check questions 4g and 4h

6. Solve the following equations

a) $4w - 4 = 2w + 6$

b) $3(x + 2) = 4(x - 5)$

Name: _____

Date: _____

b) $\frac{r+2}{3} = -5$

d) $\frac{q+3}{3} = \frac{q-5}{2}$

7. Evelyn has 1 horse and 10 chickens. The equation $C = 8d + 100$, represents the total cost, C , to feed the animals for a certain number of days, d . If Evelyn has \$2700 could she feed them for the entire year?

8. Use the simple interest formula $I = Prt$, to find the amount that needs to be invested at 4% per year for 20 years in order to earn \$6000 in interest.

Name: _____

Date: _____

9. Use the formula $d = st$ to determine Dakota's speed in kilometers per hour if he runs 10 km in 0.95 hours.

10. One measure of a baseball pitcher's performance is WHIP, walks and hits per inning pitched. This statistic relates the number of runners who get on base per inning, r , to the total number of walks, w , the total number of hits, h , and the total number of innings pitched, I , according to the formula $r = \frac{w+h}{i}$. Determine Jesse's WHIP based on the following stats.

Walks: 18

Hits: 35

Total Innings: 40

11. The equation $s = \frac{w-10e}{t}$, models the speed in words per minute, s , at which someone types. The speed, s , is related to the number of words typed, w , the number of errors, e , and the time spent typing in minutes, t . If Jaycee types 500 words in 6 min, with 8 errors, what is her typing speed?

Name: _____

Date: _____

12. Savannah and India leave the same place at the same time and drive in opposite directions. India drives 5 km/h faster than Savannah does. After 2 hr, they are 255 km apart. How fast is each driving? [3]