Name_____

Solving Equations with Distribution & Like Terms

DEVELOP. **Solve each equation by first distributing.**

1) $5(1 + 5x) = 55$

2) $4(2n + 5) = 52$

3) $3(-1 + 5r) = 72$

4) $3(4m + 2) = 54$

5) $5(5b - 5) = 75$

6) $5(3x + 1) = 80$

7) $-72 = 4(2 + 4x)$

8) $-52 = -2(1 - 5n)$

9) $51 = 3(-4v + 5)$

10) $96 = 4(4 - 5n)$

11) $-60 = 3(-3n - 5)$

12) $-90 = -5(3 + 5v)$

DEVELOP: **Solve each equation by first collecting like terms.**

13) $-4n + n = -6$

14) $3x - 5x = 4$

15) $5n + 4 + 1 = -10$

16) $6 = 2m - 4m$

17) $5 = x + 2 + 2$

18) $-1 = n + 3 - 3n$

19) $4x + 4x = 5x - 6$

20) $3p + 1 = p - 7$

21) $1 - 4n = -5n + 3$

22) $7 + 2x = 1 - 4x$

23) $5p - 5 = 3p + 5$

24) $x - 3 = -4x + 7$

CRYPTIC QUIZ

1. Why does Beethoven now spend all his time erasing music?

$$\overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}$$
16   6   −4   10   −3   6   −9   7   20   −5   7   10   −4   3   21

2. What is it called when a sea bird lands on a channel marker?

$$\overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}$$
−36   9   7   −8   20   6   6   −2   10   21   9   11   11

3. How does a tree feel after a hard day at work?

$$\overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{}$$
−36   9   10   16   6   −3

TO DECODE THE ANSWERS TO THESE QUESTIONS:

Solve each equation below and find your answer in the code. Each time the solution appears, write the letter of that exercise above it.

Ⓞ $8u = 3u + 35$

Ⓝ $7y = 33 - 4y$

Ⓔ $2x + 48 = 10x$

Ⓣ $5t - 26 = 18t$

Ⓘ $k = 8k + 28$

Ⓖ $-30n = -27n - 63$

Ⓗ $4x + 4 = 2x + 36$

Ⓓ $9y - 1 = y - 25$

Ⓟ $14p - 8 = 22 + 20p$

Ⓛ $z + 81 = 9z - 7$

Ⓨ $39 - 12w = 7 - 16w$

Ⓒ $-15v - 40 = 23 - 8v$

Ⓜ $63 - x = 2x + 3$

Ⓤ $3n + 46 = 1 + 8n$

Ⓑ $12r - 18 = 13r + 18$

Ⓢ $-x - 1 = x - 21$

OBJECTIVE 4–n: To solve equations having the variable in both sides.   © 1989 Creative Publications   **41**

What Were the Headlines After a Midget Fortuneteller Escaped From Jail?

Solve each equation and find your solution below. Cross out the box containing that solution. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

① $3(2x + 5) = 39$

② $2(6k − 1) = −38$

③ $8(7 − y) = −24$

④ $−4(8 + 5n) = 8$

⑤ $6(3x − 5) − 7x = 25$

⑥ $−2(5 + 6m) + 16 = −90$

⑦ $15(t + 2) + 9t = 6$

⑧ $7w − 3(4w + 8) = 11$

⑨ $22 − 5(6v − 1) = −63$

⑩ $18x − (8x − 7) = 67$

⑪ $8(−2x − 4) + 12 = −52$

⑫ $2(9n − 1) + 7(n + 6) = −60$

⑬ $−3(3x + 15) − (10 + x) = 35$

⑭ $11(4 − 6y) + 5(13y + 1) = 9$

MID	THE	GET	SMA	SHA	RTF	AWA	LLM	AKE	EDI
5	−9	−1	12	2	40	−3	35	−7	15
TOR	UMA	PRI	UNJ	TLA	SON	AIL	CHA	RGE	TLE
−2	−14	6	4	−20	3	10	−4	−12	8

OBJECTIVE 4–m: To solve equations containing parentheses.

Name_____

Solving Equations with Distribution & Like Terms

EXTENDING : **Solve each equation by first collecting like terms.**

1) $-8 - 5n - 7 = -17 + 1 - 4n - 8$

2) $-1 + 8a = 8 - 7 - 6a - 2$

3) $\dfrac{1343}{120} - x = \dfrac{7}{6}x + \dfrac{15}{4} + \dfrac{2}{5}$

4) $\dfrac{3}{2}b - \dfrac{5}{2} = -\dfrac{43}{6} - \dfrac{5}{2}b$

5) $n + \dfrac{8}{5} = \dfrac{23}{5} + \dfrac{9}{5}n$

6) $1.1x + 1 = -4.59 - 0.2x$

7) $-5.6x + 4.2x = 12.76 - 3.6x$

8) $1.48 - 4.2v = 1 - 4.8v$

EXTENDING: Solve each equation by first distributing.

9) $-(1 - 3b) = 8(b + 8)$

10) $3(-1 - 6r) = -3(-2 + 3r)$

11) $\dfrac{157}{3} = -4\left(\dfrac{9}{4}x - \dfrac{1}{3}\right)$

12) $\dfrac{105}{2} = -\dfrac{7}{2}\left(-\dfrac{13}{5}n - 2\right)$

13) $\dfrac{329}{200} + \dfrac{1}{3}b = \dfrac{7}{4}b + \dfrac{12}{5}\left(\dfrac{6}{5}b - 2\right)$

14) $\dfrac{175}{48} - \dfrac{5}{3}p = \dfrac{5}{4}\left(-\dfrac{13}{4}p + 1\right)$

15) $-124 = 5(5n - 4.3)$

16) $54.02 = 3.7(2.9 - 3.9n)$

17) $-6.68 - 3r = 1.6(r - 1.3)$

18) $-9.27 + 2.8k = 3.9(k - 1.7)$