5.4

# What is the Title of This Picture?

Key

Show your work on this page. You should have 3-4 steps for every problem!

1. $7n+2 = 4n+17$
$7n+2-4n = 4n+17-4n$
$3n+2-2 = 17-2$
$3n \div 3 = 15 \div 3$
$n = 5$

2. $8y-3 = 15+2y$
$8y-3-2y = 15+2y-2y$
$6y-3+3 = 15+3$
$6y \div 6 = 18 \div 6$
$y = 3$

3. $5x+9 = x-23$
$5x+9-x = x-23-x$
$4x+9-9 = -23-9$
$4x \div 4 = -32 \div 4$
$x = -8$

4. $-2k+19 = 3k-1$
$-2k+19+2k = 3k-1+2k$
$19+1 = 5k-1+1$
$20 \div 5 = 5k \div 5$
$4 = k$

5. $7-6u = 5u+29$
$7-6u+6u = 5u+29+6u$
$7-29 = 11u+29-29$
$-22 \div 11 = 11u \div 11$
$-2 = u$

6. $9m = 4m-35$
$9m-4m = 4m-35-4m$
$5m \div 5 = -35 \div 5$
$m = -7$

7. $5x+10 = 3x+24$
$5x+10-3x = 3x+24-3x$
$2x+10-10 = 24-10$
$2x \div 2 = 14 \div 2$
$x = 7$

8. $6(t-1) = 9(t-4)$
$6t-6-6t = 9t-36-6t$
$-6+36 = 3t-36+36$
$30 \div 3 = 3t \div 3$
$10 = t$

9. $q+14 = 8(q+7)$
$q+14-q = 8q+56-q$
$14-56 = 7q+56-56$
$-42 \div 7 = 7q \div 7$
$-6 = q$

10. $10-d = -34-5d$
$10-d+5d = -34-5d+5d$
$10+4d-10 = -34-10$
$4d \div 4 = -44 \div 4$
$d = -11$

11. $8v+1 = 7v-20$
$8v+1-7v = 7v-20-7v$
$v+1-1 = -20-1$
$v = -21$

12. $4(w-6) = 3(w+1)$
$4w-24-3w = 3w+3-3w$
$w-24+24 = 3+24$
$w = 27$

13. $11p+16 = 2p+7$
$11p+16-2p = 2p+7-2p$
$9p+16-16 = 7-16$
$9p \div 9 = -9 \div 9$
$p = -1$

14. $10b-45 = 3(b-15)$
$10b-45+45 = 3b-45+45$
$10b-3b = 3b-3b$
$7b = 0$
$b = 0$

15. $12(y+5) = 13y+2$
$12y+60-12y = 13y+2-12y$
$60-2 = y+2-2$
$58 = y$

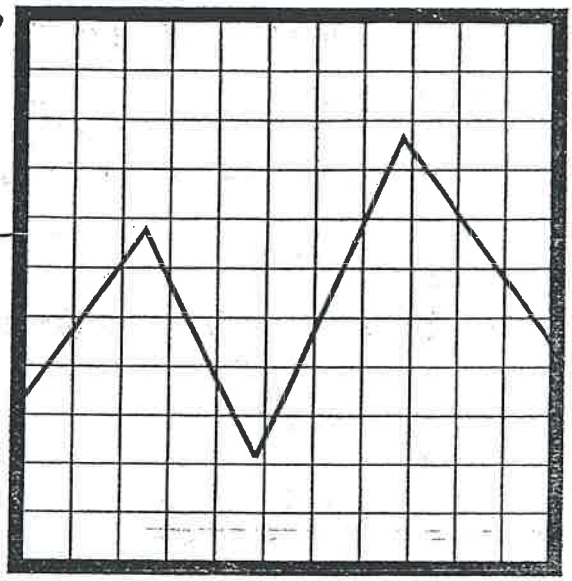
(5.4)

Key

# What Is the Title of This Picture?

Find each solution in the coded title. Each time it appears, write the letter of the exercise above it.

*Show neat, organized work on backside



**CODED TITLE:**

| M | o | u | n | t | a | i | n | | r | a | n | g | e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | −7 | −6 | 9 | 58 | 3 | −2 | 9 | 13 | −5 | 3 | 9 | −8 | 27 |

| v | i | e | w | e | d | | t | h | r | o | u | g | h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| −21 | −2 | 27 | 10 | 27 | 4 | 51 | 58 | −11 | −5 | −7 | −6 | −8 | −11 |

| t | e | n | n | i | s | | r | a | c | k | e | t |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 27 | 9 | 9 | −2 | 5 | −17 | −5 | 3 | 7 | −1 | 27 | 58 |

(1) **S** $7n + 2 = 4n + 17$

(2) **A** $8y - 3 = 15 + 2y$

(3) **G** $5x + 9 = x - 23$

(4) **D** $-2k + 19 = 3k - 1$

(5) **I** $7 - 6u = 5u + 29$

(6) **O** $9m = 4m - 35$

(7) **C** $5(x + 2) = 3(x + 8)$

(8) **W** $6(t - 1) = 9(t - 4)$

(9) **U** $q + 14 = 8(q + 7)$

(10) **H** $10 - d = -34 - 5d$

(11) **V** $8v + 1 = 7v - 20$

(12) **E** $4(w - 6) = 3(w + 1)$

(13) **K** $11p + 16 = 2p + 7$

(14) **M** $10b - 45 = 3(b - 15)$

(15) **T** $12(y + 5) = 13y + 2$

(16) **R** Nine more than four times a number is the same as one less than twice the number. Find the number.

$-2x + 9 + 4x = 2x - 1 \quad -2x$

$-9 + 9 + 2x = -1 \quad -9$

$2x + 2 = -10 + 2$

$x = -5$

(17) **N** Eighty, decreased by three times a number, is the same as five times the number, increased by eight. Find the number.

$80 - 3x + 3x = 5x + 8 \quad +3x$

$80 - 8 = 8x + 8 \quad -8$

$72 \div 8 = 8x \div 8$

$9 = x$