

Literal Equations Worksheet

Name: _____

Date: _____

Part A – Solve for the Given Variable

Solve each equation for the variable shown.

1. $y = x + 7$, solve for x . $x =$ _____

2. $y = x - 9$, solve for x . $x =$ _____

3. $y = 4x$, solve for x . $x =$ _____

4. $y = 5x$, solve for x . $x =$ _____

5. $a = b + c$, solve for b . $b =$ _____

6. $m = n - p$, solve for n . $n =$ _____

7. $P = 2l + 2w$, solve for l . $l =$ _____

8. $A = lw$, solve for w . $w =$ _____

9. $d = rt$, solve for t . $t =$ _____

10. $V = lwh$, solve for h . $h =$ _____

Part B – One-Step Literal Equations

11. $x + a = b$, solve for x .

12. $x - a = b$, solve for x .

13. $ax = b$, solve for x .

14. $ax = b$, solve for x .

15. $y + 8 = x$, solve for y .

16. $p - 6 = q$, solve for p .

17. $7m = n$, solve for m .

18. $4r = s$, solve for r .

19. $c + d = e$, solve for c .

20. $f - g = h$, solve for f .

Part C – Two-Step Literal Equations

Solve for the indicated variable.

21. $y = 3x + 5$, solve for x . $x =$ _____

22. $y = 4x - 7$, solve for x . $x =$ _____

23. $y = 2x + 6$, solve for x . $x =$ _____

24. $y = 3x - 8$, solve for x . $x =$ _____

25. $a = 5b + c$, solve for b . $b =$ _____

26. $m = 2n - p$, solve for n . $n =$ _____

27. $q = 4r + s$, solve for r . $r =$ _____

28. $A = 3x + 2y$, solve for x . $x =$ _____

29. $C = 2\pi r$, solve for r . $r =$ _____

30. $F = 59C + 32$, solve for C . $C =$ _____

Part D – Geometry Formulas

Rearrange each formula to solve for the requested variable.

31. $A=lw$, solve for l .

32. $A=lw$, solve for w .

33. $P=2l+2w$, solve for w .

34. $A=21bh$, solve for h .

35. $A=21bh$, solve for b .

36. $V=lwh$, solve for l .

37. $V=lwh$, solve for w .

38. $C=2\pi r$, solve for r .

39. $A=\pi r^2$, solve for r .

40. $d=rt$, solve for r .

Part E – Science and Everyday Formulas

41. $F=ma$, solve for m .

42. $F=ma$, solve for a .

43. $v=td$, solve for d .

44. $v=td$, solve for t .

45. $I=tQ$, solve for Q .

46. $I=tQ$, solve for t .

47. $P=IV$, solve for I .

48. $P=IV$, solve for V .

49. $D=Vm$, solve for m .

50. $D=Vm$, solve for V .

Part F – Multiple Choice

- | | | | | |
|--------------------------------|---------------|---------------|--------------|----------------|
| 51. Solve $y=x+12$ for x . | A. $x=y+12$ | B. $x=y-12$ | C. $x=12-y$ | D. $x=12y$ |
| 52. Solve $A=lw$ for w . | A. $w=A-l$ | B. $w=Al$ | C. $w=lA$ | D. $w=Al$ |
| 53. Solve $d=rt$ for r . | A. $r=dt$ | B. $r=td$ | C. $r=dt$ | D. $r=d-t$ |
| 54. Solve $F=ma$ for a . | A. $a=Fm$ | B. $a=mF$ | C. $a=Fm$ | D. $a=F-m$ |
| 55. Solve $P=2l+2w$ for l . | A. $l=2P-2w$ | B. $l=P-2w$ | C. $l=2P+2w$ | D. $l=2P-2w$ |
| 56. Solve $y=5x-10$ for x . | A. $x=5y-10$ | B. $x=5y+10$ | C. $x=5y+10$ | D. $x=5(y-10)$ |
| 57. Solve $A=21bh$ for b . | A. $b=2hA$ | B. $b=h2A$ | C. $b=2Ah$ | D. $b=2Ah$ |
| 58. Solve $V=lwh$ for h . | A. $h=Vlw$ | B. $h=lwV$ | C. $h=Vlw$ | D. $h=V-lw$ |
| 59. Solve $C=2\pi r$ for r . | A. $r=2\pi C$ | B. $r=2\pi C$ | C. $r=C2\pi$ | D. $r=C-2\pi$ |
| 60. Solve $y=3x-4$ for x . | A. $x=3y-4$ | B. $x=3y+4$ | C. $x=3y+4$ | D. $x=3(y-4)$ |

Part G –

61. $y=ax+b$, solve for x .

62. $A=2(b_1+b_2)h$, solve for h .

63. $P=2l+2w$, solve for l .

64. $y=cmx+b$, solve for x .

65. $ax+b=c$, solve for x .

66. $y=a(x+b)$, solve for x .

67. $M=zx+y$, solve for y .

68. $Q=cab$, solve for b .

69. $S=2\pi rh+2\pi r^2$, solve for h .

70. $E=mc^2$, solve for m .