Solving Equations 12
Geometry

Solve, check, and graph the following equations.

1) $36 = 6z - 15z$

$36 = -9z$
$-9 \quad -9$
$-4 = z$

$36 = 6(-4) - 15(-4)$
$36 = -24 + 60$
$36 = 36$

2) $-70 = 12x - 19x$

$-70 = -7x$
$-7 \quad -7$
$10 = x$

$-70 = 12(10) - 19(10)$
$-70 = 120 - 190$
$-70 = -70$

3) $-5 = -22b + 13b - 23$

$-5 = -9b - 23$
$+23 \quad +23$
$18 = -9b$
$-2 = b$

4) $33 = 12x + 8 - 15x - 14$

$33 = -3x - 6$
$+6 \quad +6$
$39 = -3x$
$-3 = -3$
$-13 = x$

5) $-63 + 12f = 5f$

$-12f \quad -12f$
$-63 = -7f$
$-7 \quad -7$
$9 = f$

$-63 + 12(9) = 5(9)$
$-63 + 108 = 45$
$45 = 45$

6) $5x + 18 = 14x$

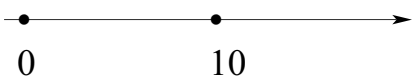
$-5x \quad -5x$
$18 = 9x$
$9 \quad 9$
$2 = x$

$5(2) + 18 = 14(2)$
$10 + 18 = 28$
$28 = 28$

7) $163 + 6k = 53 + 17k$

$-53 \quad -6k \quad -53 \quad -6k$
$110 = 11k$
$/11 \quad /11$
$10 = k$

$163 + 6(10) = 53 + 17(10)$
$163 + 60 = 53 + 170$
$223 = 223$



8) $2(2x + 6) = 20$

$4x + 12 = 20$
$-12 \quad -12$
$4x = 8$
$/4 \quad /4$
$x = 2$

$2(2(2) + 6) = 20$
$2(4 + 6) = 20$
$2(10) = 20$
$20 = 20$

9) $102 = 6(3n + 2)$

$102 = 18n + 12$
$-12 \quad -12$
$90 = 18n$
$/18 \quad /18$
$5 = n$

$102 = 6(3(5) + 2)$
$102 = 6(15 + 2)$
$102 = 6(17)$
$102 = 102$

10) $-8(-2t + 5) = 24$

$16t - 40 = 24$
$+40 \quad +40$
$16t = 64$
$/16 \quad /16$
$t = 4$

11) $3(5v + 8) = 16v + 22$

$15v + 24 = 16v + 22$
$-15v \quad -22 \quad -15v \quad -22$
$2 = v$

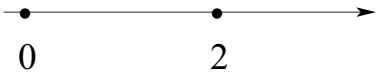
$3(5(2) + 8) = 16(2) + 22$

12) $-12w + 6 = -6(4 + 3w)$

$-12w + 6 = -24 - 18w$
$+12w \; 24 \quad +24 \; +12w$
$30 = -6w$
$/-6 \quad /-6$
$-5 = w$

$-8(-2(4) + 5) = 24$
$-8(-8 + 5) = 24$
$-8(-3) = 24$
$24 = 24$

$3(10+8) = 32 + 22$
$3(18) = 54$
$54 = 54$



$-12(-5) + 6 = -6(4 + 3(-5))$
$60 + 6 = -6(4-15)$
$66 = -6(-11)$
$66 = 66$