Solve algebraic equations Name_____

Date_____

Solve each equation.

1) $-(5a-4) = -11 - 5(1+2a)$

2) $-7b + 8(b-2) = -8(2+4b) - 6b$

3) $11 - 3(n+8) = -n - 3(2n-1)$

4) $11x + 2 + 2 - 3x = -8(11x-2) + 12(1+6x)$

5) $3(8p-8) - 8(p+1) = 7 - 12p + p - 12$

6) $4n + n = 10(n-12) + 3(12n-1)$

7) $-9(x-12) = -6(2x-8)$

8) $4(-3-8x) = 4(3-10x)$

9) $-7(1-2v) = -(v-8)$

10) $-10(1-5n) - 2 = 9(6n-4)$

11) $-7 - 2(2+2m) = 3 + 2(1-10m)$

12) $-42r - 27 = -7(-8+6r)$

13) $\frac{17}{11} - \frac{7}{11}\left(b - \frac{5}{8}\right) = -\frac{2}{5}\left(-2b + \frac{7}{9}\right)$

14) $-\frac{10}{9}\left(\frac{9}{11}n + \frac{5}{3}\right) - \frac{3}{2} = -\frac{7}{6} - \frac{1}{2}\left(n + \frac{47}{12}\right)$

15) $-\left(r+\frac{7}{2}\right)=\frac{33}{10}\left(\frac{1}{2}r+1\right)$

16) $\frac{5}{8}b-2b=-\frac{9}{5}\left(b+\frac{50}{9}\right)-2\left(\frac{5}{8}b+\frac{9}{11}\right)$

17) $-\frac{5}{12}-\frac{8}{9}\left(\frac{3}{7}x-\frac{7}{4}\right)=\frac{48}{7}\left(-\frac{16}{11}x+\frac{70}{9}\right)$

18) $\frac{11}{12}+\frac{6}{5}\left(\frac{5}{4}m-5\right)=\frac{17}{12}\left(m-\frac{8}{7}\right)$

19) $-\frac{23}{10}n+\frac{48}{11}\left(-\frac{1}{3}n-3\right)=11\left(n+\frac{31}{9}\right)+\frac{37}{12}$

20) $-\frac{13}{6}\left(x+\frac{7}{4}\right)=\frac{21}{11}\left(\frac{29}{8}x+\frac{2}{5}\right)$

21) $\frac{1}{10}\left(\frac{16}{3}n + \frac{61}{9}\right) = -\frac{2}{5}\left(\frac{8}{11}n + 12\right)$

22) $\frac{3}{2}\left(-\frac{33}{10}p + \frac{4}{3}\right) - \frac{1}{11}\left(\frac{7}{11}p - \frac{1}{10}\right) = 2p + \frac{3}{2} + \frac{49}{12}p + \frac{21}{8}$

23) $\frac{29}{8}\left(\frac{34}{5}k + \frac{1}{2}\right) = \frac{56}{11}\left(-\frac{1}{2}k + 1\right)$

24) $-\frac{1}{2}\left(-\frac{4}{9}x - \frac{1}{4}\right) = 2\left(\frac{3}{2}x + \frac{4}{5}\right)$

Answers to

1) $\{-4\}$
2) $\{0\}$
3) $\{4\}$
4) $\{1\}$
5) $\{1\}$
6) $\{3\}$
7) $\{-20\}$
8) $\{3\}$
9) $\{1\}$
10) $\{6\}$
11) $\{1\}$
12) No solution.
13) $\left\{\frac{113}{72}\right\}$
14) $\left\{-\frac{539}{972}\right\}$
15) $\left\{-\frac{136}{53}\right\}$
16) $\left\{-\frac{5120}{737}\right\}$
17) $\left\{\frac{144683}{26592}\right\}$
18) $\left\{\frac{291}{7}\right\}$
19) $\left\{-\frac{107045}{29214}\right\}$
20) $\left\{-\frac{6013}{11995}\right\}$
21) $\left\{-\frac{319}{48}\right\}$
22) $\left\{-\frac{1617}{8476}\right\}$
23) $\left\{\frac{2885}{23932}\right\}$
24) $\left\{-\frac{531}{1000}\right\}$