Solving By Factoting

Mathematician Taney ID: 1

Study Guide

Date ☺ Period____

Solve each equation by factoring. Level 1 - Questions 1-4, Level 2, Questions 5-8, Level 3 Questions 9-12. Level 4 - Error Analysis.

1) $(7n+6)(n-7)=0$

x = -6/7
x = 7

2) $(m-4)(m-6)=0$

x = 4
x = 6

3) $x(x-4)=0$

x = 4
x = 0

4) $(x+8)(x+1)=0$

x = -8
x = -1

5) $v^2+3v+2=0$

x = -2
x = -1

6) $b^2+b-30=0$

x = -6
x = 5

7) $k^2+5k-24=0$

x = -8
x = 3

8) $x^2-x-56=0$

x = 8
x = -7

9) $v^2+v-23=-3$

x = 4
x = -5

10) $x^2+15x+53=-3$

x = -7
x = -8

11) $x^2-3x-3=7$

x = -2
x = 5

12) $n^2-5n-22=2$

x = 3
x = 8

CW 5/30 Mathematician_____ ID: 1

Assignment

Date_____ Period____

Solve each equation by factoring.

1) $v^2 - v = 0$

V=0
V=1

2) $r^2 - 3r - 10 = 0$

X= 5
X= -2

3) $b^2 + 11b + 24 = 0$

b= -8
b= -3

4) $a^2 + 8a + 12 = 0$

a= -6
a= -2

5) $v^2 + 8v + 7 = 0$

V= -7
V= -1

6) $x^2 - 5x - 14 = 0$

X= 7
X= -2

7) $m^2 - m - 12 = 0$

m=
m=

8) $a^2 - 3a - 28 = 0$

a= 7
a= -4

9) $a^2 - a - 30 = 0$

a=
a=

10) $v^2 - 7v + 10 = 0$

V= +5
V= +2

11) $m^2 - 52 = -3$

m= -7
m= 7

12) $v^2 - 8 = -7$

V= 1
V= -1

Some of the problems below MAY contain an error. If there is no error, explain how you know the problem is correct. If there is an error, explain what the mistake is and what they need to do to correct their work.

1. $x^2 - 6x - 7 = 0$

$(x-7)(x+1)=0$

$x-7=0$ or $x+1=0$

$+7\ +1$ $\quad -1\ -1$

$x=7$ or $x=-1$

The answer is correct because $-7 \cdot 1 = 7$ and $-7+1=-6$.

2. $x^2 + 12x + 32 = 0$

$(x+8)(x+4)=0$

$x=-8$ or $x=-4$

They did not solve for x. It should be $x+8=0$ and $x+4=0$ so $x=-8$ and $x=-4$.

3. $x^2 - 2x - 24 = 0$

$(x \mp 12)(x \pm 2)=0$

$x+12=0$ or $x-2=0$

$-12\ -12$ $\quad +2\ +2$

$x=12$ or $x=-2$

The signs on the factor pairs are switched. So when they solved it was incorrect too.

4. $x^2 + 3x - 4 = 0$

$(x+4)(x-1)=0$

$x-3=0$ or $x-1=0$

$x=3$ or $x=1$

$x=-4$

The factor $(x-4)$ should be $x+4$ b/c $4+-4=-4$ and $4+-1=3$. The answer should be $x=-4$ and $x=1$

5. $x^2 + x - 42 = 0$

$(x+7)(x-6)=0$

$x+7=0$ or $x-6=0$

$x=-7$ or $x=6$

This is correct b/c $7(-6)$ is -42 and $7+-6$ is 1.

6. $x^2 + 11x + 28 = 0$

$(x+7)(x+4)=0$

$x-7=0$ or $x-4=0$

$+7\ +7$ $\quad +4\ +4$

$x=7$ or $x=4$

The signs are switched in the factors.