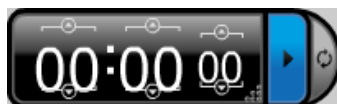


Factor each completely.



1)  $6a^2 - 17a - 28$

2)  $4n^2 + 31n + 42$

3)  $6n^2 - 24n$

4)  $4n^2 - 9$

5)  $5x^2 + 8 = 33$

6)  $17 - x^2 = 30$

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

1)  $(a - 4)(6a + 7)$

2)  $(n + 6)(4n + 7)$

3)  $6n(n - 4)$

4)  $(2n + 3)(2n - 3)$

1)  $6a^2 - 17a - 28$

$\xrightarrow{\quad \quad \quad}$   
 $-17 \quad \quad 6(-28)$   
 $\quad \quad \quad = -168$

$\overset{7}{\quad} \overset{-24}{\quad}$   
 $(6a+7)(6a-24)$   
 $\quad \quad \quad \underline{\quad \quad \quad}$   
 $\quad \quad \quad 6$   
 1.  
 2.  
 3.  
 $(6a+7)(a-4)$

$6a^2$	$-28$	$-168a^2$
$a$	$7$	$7a$
$6a$	$-4$	$-24a$

$(a-4)(6a+7) = -17a$

$$2) 4n^2 + 31n + 42$$

$$\uparrow \quad \quad \quad \uparrow \quad \quad \quad 4(42)$$

$$168$$

$$86$$

$$2 \cdot 84$$

$$59$$

$$3 \cdot 56$$

$$46$$

$$4 \cdot 42$$

$$34$$

$$6 \cdot 28$$

$$31$$

$$7 \cdot 24$$

$$\left( \frac{4n + 7}{1} \right) \left( \frac{4n + 24}{4} \right)$$

$$(4n + 7)(n + 6)$$

$$3) 6n^2 - 24n$$

GCF

$$6n(n - 4)$$

$$4) \sqrt{4} 4n^2 - 9 \sqrt{9}$$
$$(2n - 3)(2n + 3)$$

$$5) \quad 5x^2 + 8 = 33$$
$$\quad \quad \quad \underline{-8 \quad -8}$$

$$\frac{5x^2}{5} = \frac{25}{5}$$

$$\sqrt{x^2} = \sqrt{5}$$

$$x = \pm\sqrt{5}$$

$$5x + 8 = 33$$
$$\quad \quad \quad \underline{-8 \quad -8}$$

$$\frac{5x}{5} = \frac{25}{5}$$

$$x = 5$$

$$6) 17 - x^2 = 30$$

$$\frac{-17 \quad -17}{\hline}$$

$$\frac{-1x^2 = 13}{-1 \quad -1}$$

$$\sqrt{x^2} = \sqrt{-13}$$

$$x = \pm \sqrt{-13}$$

$$x = \pm i\sqrt{13}$$

$$17 - x = 30$$

$$\frac{-17 \quad -17}{\hline}$$

$$\frac{-x = 13}{-1 \quad -1}$$

$$x = -13$$

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

$$+2 \quad \swarrow \quad +2$$

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

$$(x-2)(x-1) = 0$$

$$x-2=0$$

$$x=2$$

$$x-1=0$$

$$x=1 \text{ Ans}$$