Outcome 2 - By factorising

Bronze examples

Silver examples

Gold examples

Examples...

Solve the following quadratic equations...

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

 $x-1=0$ or $x+2=0$
 $x=1$ or $x=-2$
 $(x+4)(x-3) = 0$ $x=3$
 $x(x+8) = 0$ $x=0$
 $x=-8$

Solve the following quadratic equations...

$$x^{2} + 2x - 8 = 0$$

$$(x + 4)(x - 2) = 0$$

$$x + 4 = 0 \text{ or } x - 2 = 0$$

$$x = -4 \text{ or } x = 2$$

$$x^{2} + 5x - 24 = 0 \quad x = -8$$

$$(x + 8)(x - 3) = 0 \quad x = 3$$

$$x^{2} + 3x = 0 \quad x = 0$$

$$x(x + 3) = 0 \quad x = -3$$

Examples... Solve the following

14x x

quadratic equations...
$$2x^2 - 13x - 7 = 0$$

$$(2x+1)(x-7)=0$$

$$2x + 1 = 0$$
 or $x - 7 = 0$

$$x = -\frac{1}{2} \quad \text{or} \quad x = 7 \qquad 12x \quad 2x$$

$$3x - 2 \quad 4$$

$$3x^2 + 10x - 8 = 0$$

$$(3x - 2)(x + 4) = 0$$

$$3x - 2 = 0 \quad \text{or} \quad x + 4 = 0$$

$$x = \frac{2}{3} \quad \text{or} \quad x = -4$$

Bronze Questions

Solve the following quadratic equations...



$$(x+6)(x-2) = 0$$

$$(x+6)(x-2) = 0$$
 $(x-3)(x-1) = 0$

$$(x+9)(x+11) = 0$$
 $(x+8)(x-12) = 0$

$$(x+8)(x-12) = 0$$

$$(x-1)(x+10) = 0$$
 $(x+5)(x-5) = 0$

$$(x+5)(x-5) = 0$$

$$x(x-6) = 0$$
 2 $x(x+14) = 0$

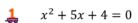
$$4x(x+7) = 0$$
 $(x-2) = 0$

$$6x(x-2) = 0$$

Silver Questions



Solve the following quadratic equations...





$$x^2 + 4x - 60 = 0$$
 $x^2 - 4x - 32 = 0$

$$4 \quad x^2 - 4x - 32 = 0$$

$$5 x^2 + 3x - 10 = 0 6 x^2 - 49 = 0$$

$$\approx$$
 $x^2 - 40 - 6$

$$r^2 - 4r = 0$$

$$x^2 - 4x = 0$$
 8 $x^2 + 10x = 0$

$$2x^2 + 6x = 0 \qquad 10 \qquad 9x^2 - 54x = 0$$

$$9x^2 - 54x =$$

Gold Questions

Solve the following quadratic equations...



$$2x^2 + 7x - 15 = 0$$

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

$$3x^2 + 3x - 2 = 0$$
 $4x^2 - 20x - 3 = 0$

$$5 2x^2 - 9x + 7 = 0$$

$$5 2x^2 - 9x + 7 = 0$$
 $5 3x^2 - 8x + 4 = 0$

$$2 15x^2 - 17x - 4 = 0$$
 $2 4x^2 - 8x + 3 = 0$

$$2 4x^2 - 8x + 3 = 0$$

$$4x^2 - 28x + 49 = 0$$
 $9x^2 - 12x + 4 = 0$

$$9x^2 - 12x + 4 = 0$$

Bronze Answers

1.
$$x = -6$$
 and $x = 2$ 2. $x = 3$ and $x = 1$

3.
$$x = -9$$
 and $x = -11$ 4. $x = -8$ and $x = 12$

5.
$$x = 1$$
 and $x = -10$ 6. $x = 5$ and $x = -5$

7.
$$x = 0$$
 and $x = 6$

9.
$$x = 0$$
 and $x = -7$ 10. $x = 0$ and $x = 2$

2.
$$x = 3$$
 and $x = 1$

6.
$$x = 5$$
 and $x = -5$

7.
$$x = 0$$
 and $x = 6$ 8. $x = 0$ and $x = -14$

Silver Answers

1.
$$x = -4$$
 and $x = -1$ 2. $x = 1$ and $x = 7$

$$3 \times -10$$
 and $\times -6$

5.
$$x = -5$$
 and $x = 2$

$$7 \times = 0$$
 and $x = 4$

9.
$$x = 0$$
 and $x = -3$ 10. $x = 0$ and $x = 6$

2.
$$x = 1$$
 and $x = 7$

3.
$$x = -10$$
 and $x = 6$ 4. $x = -4$ and $x = 8$

6.
$$x = 7$$
 and $x = -7$

7.
$$x = 0$$
 and $x = 4$ 8. $x = 0$ and $x = -10$

10.
$$x = 0$$
 and $x = 6$

Gold Answers

$$x = -1/2$$
 and $x = -2$

$$x = 3/2$$
 and $x = -5$

$$x = 2/5$$
 and $x = -1$

$$x = -1/7$$
 and $x = 3$

$$x = 7/2$$
 and $x = 1$

$$x = 2/3$$
 and $x = 2$

$$x = 4/3$$
 and $x = -1/5$

$$x = 3/2$$
 and $x = 1/2$

$$x = 7/2$$

$$x = 2/3$$