

Examples

Workout



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Question 1: Factorise the following expressions

- | | | | |
|-----------------|-----------------|------------------|-----------------------|
| (a) $4x + 6$ | (b) $15x + 20$ | (c) $9y - 12$ | (d) $5x + 15$ |
| (e) $6x - 3$ | (f) $4x + 8$ | (g) $5y - 25$ | (h) $8w + 24$ |
| (i) $10y + 15$ | (j) $14w + 21$ | (k) $20y - 30$ | (l) $27x + 18$ |
| (m) $6 - 4x$ | (n) $9 + 12y$ | (o) $45 + 60x$ | (p) $16y - 32$ |
| (q) $22a + 55$ | (r) $100 - 40y$ | (s) $6x + 9y$ | (t) $4w - 2a$ |
| (u) $25y - 35z$ | (v) $8x^2 + 20$ | (w) $30y^3 - 15$ | (x) $42y + 28x - 56c$ |

Question 2: Factorise the following expressions

- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| (a) $x^2 + 7x$ | (b) $x^2 - 3x$ | (c) $y^2 + y$ | (d) $w^2 + 9w$ |
| (e) $x^2 - 7x$ | (f) $4w^2 + 10w$ | (g) $6x^2 - 8x$ | (h) $9y^2 - 6y$ |
| (i) $10c + c^2$ | (j) $5g - g^2$ | (k) $14x^2 + 35x$ | (l) $40x^2 - 50x$ |
| (m) $12x^2 + 18x$ | (n) $24x^2 - 18x$ | (o) $45y^2 + 60y$ | (p) $7w^2 + 2w$ |

Question 3: Factorise the following expressions

- | | | | |
|--------------------|----------------------|--------------------|---------------------------|
| (a) $x^2 + xy$ | (b) $a^2 - ab$ | (c) $xy + xz$ | (d) $ab + ac - ad$ |
| (e) $6c^2 - 4cd$ | (f) $10x^2 + 15xy$ | (g) $12ab + 18bc$ | (h) $8xy + 4y^2$ |
| (i) $8cdf + 10cde$ | (j) $7w^2 + 6w + wy$ | (k) $8ab^2 - 10ab$ | (l) $4xy^2 + 6xy + 2x^2y$ |
| (m) $6mn - 7m^2n$ | (n) $11g^2h + 22h^2$ | | |

Question 4: Factorise the following expressions

- | | | | |
|---------------------|-------------------|--------------------|---------------------|
| (a) $x^3 + 2x^2$ | (b) $5x^3 - x^2$ | (c) $8c^3 + 12c$ | (d) $10w^2 - 15w^3$ |
| (e) $32y^3 + 24y^2$ | (f) $12x^4 + 15x$ | (g) $4a^5 - 12a^2$ | (h) $8w^9 + w^7$ |

Apply

Question 1: Explain why $8x + 3y$ cannot be factorised.

Question 2: James has factorised an expression correctly.
His answer is $2(7y - 3)$.
What was the expression that he factorised?

Question 3: Alexandra is trying to factorise fully $15y + 30$.
Rebecca says the answer is $3(5y + 10)$
Victoria says the answer is $5(3y + 6)$
Alexandra says both Rebecca and Victoria are incorrect, why?

Question 4: Can you spot any mistakes?

Factorise

$$w^2 - 5w$$

$$\frac{w(w + 5)}{\dots\dots\dots}$$

(1)

Question 5: Can you spot any mistakes?

Factorise completely

$$24x^2 + 20x$$

$$\frac{4(6x^2 + 5x)}{\dots\dots\dots}$$

(2)

Question 6: Can you spot any mistakes?

Factorise completely

$$20a^2c + 30ac$$

$$\frac{5ac(4a^2 + 6)}{\dots\dots\dots}$$