Q1

1

Find the largest factor that divides both terms (with no remainder)

y divides y^2 and $-2y$

See how each term is multiplied by this factor

$y \times y - 2 \times y$

Write the factor outside brackets that expand to give $y^2 - 2y$

$\mathbf{y(y-2)}$ [1]

Q2-3

2

Find the largest factor that divides both terms (with no remainder)

n divides n^2 and $-7n$

See how each term is multiplied by this factor

$n \times n - 7 \times n$

Write the factor outside brackets that expand to give $n^2 - 7n$

$\mathbf{n(n-7)}$ [1]

3

Find the largest factor that divides both terms (with no remainder)

x divides x^2 and $7x$

See how each term is multiplied by this factor

$x \times x + 7 \times x$

Write the factor outside brackets that expand to give $x^2 + 7x$

$\mathbf{x(x+7)}$ [1]

Q4-5

4

Find the largest factor that divides both terms (with no remainder)

3 divides 6 and $9x$

See how each term is multiplied by this factor

$3 \times 2 + 3 \times 3x$

Write the factor outside brackets that expand to give $6 + 9x$

$3(2 + 3x)$ [1]

5

Find the largest factor that divides both terms (with no remainder)

e divides $3e^2$ and $5e$

See how each term is multiplied by this factor

$e \times 3e + 5 \times e$

Write the factor outside brackets that expand to give $3e^2 + 5e$

$e(3e + 5)$ [1]

Q6

6

Find the largest factor that divides both terms (with no remainder)

3 divides $3x$ and 6

See how each term is multiplied by this factor

$3 \times x + 3 \times 2$

Write the factor outside brackets that expand to give $3x + 6$

$3(x + 2)$ [1]

Q7

7a

Multiply the numbers together

$$3 \times 5 \times 2 = 30$$

Multiply the letters together

$$a \times b \times c = abc$$

Write down the final answer (by putting the number in front of the letters)

$30abc$ [1]

7b

Find the largest factor that divides both terms (with no remainder)

3 divides $3y$ and 6

See how each term is multiplied by this factor

$$3 \times y + 3 \times 2$$

Write the factor outside brackets that expand to give $3y + 6$

$3(y + 2)$ [1]

Q8-9

Find the largest factor that divides both terms (with no remainder)

y divides y^2 and $27y$

See how each term is multiplied by this factor

$$y \times y + 27 \times y$$

Write the factor outside brackets that expand to give $y^2 + 27y$

$y(y + 27)$ [1]

9

Consider numbers first, then letters.

the highest common factor of 8 and 2 is 2
the highest common factor of p^2 and p is p

So $2p$ will appear outside the brackets.
Divide each term by $2p$ to determine what is left inside the brackets.

$$8p^2 \div 2p = 4p$$
$$-2p \div 2p = -1$$

Now we can put the final answer together.

$8p^2 - 2p = 2p(4p - 1)$
"8" or "p" as factor [1]
Fully correct [1]

Q10

10

Tenzin has taken out a common factor of x for both terms in the expression so he has partially factorised it.
There is also a factor of 2 that is common to both terms that he has not taken out.

Tenzin did not fully factorise the expression as $2x$ is the full common factor [1]