Samples **Range and domain SOLUTIONS**

1. $f(w) = \dfrac{8}{11w - 10}$

When determining the domain of this function, we need to keep in mind the following:

- denominator of a fraction cannot be 0, so $11w - 10 \neq 0$;
- so $11w \neq 10$;
- so $w \neq \dfrac{10}{11}$.

Hence, the domain of this function is $(-\infty, \dfrac{10}{11}) \cup (\dfrac{10}{11}, \infty)$, i.e. $w \neq \dfrac{10}{11}$.

2. $f(x) = \dfrac{-9}{5x - 11}$

When determining the domain of this function, we need to keep in mind the following:

- denominator of a fraction cannot be 0, so $5x - 11 \neq 0$;
- so $5x \neq 11$;
- so $x \neq \dfrac{11}{5}$.

Hence, the domain of this function is $(-\infty, \dfrac{11}{5}) \cup (\dfrac{11}{5}, \infty)$, i.e. $x \neq \dfrac{11}{5}$.

3. $f(x) = \dfrac{-7}{x^2 + 11}$

When determining the domain of this function, we need to keep in mind the following:

- denominator of a fraction cannot be 0, so $x^2 + 11 \neq 0$;
- so $x^2 \neq -11$;
- we can square any number and result will always be a positive number or 0.

Hence, the domain of this function is $(-\infty, \infty)$, i.e. any value of x can be substituted into f .