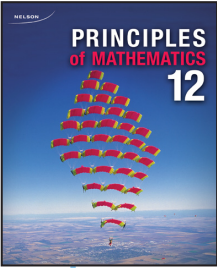PRINCIPLES
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- If you have any difficulty with these solutions, please contact your teacher before continuing.

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number of x-intercepts	zero	✔
y-intercept	2	✔
end behaviour	The b-value is 5, so this is an increasing function that extends from Quadrant II to Quadrant I. As the x-values decrease, the graph tends towards the x-axis, and as the x-values increase, the graph tends towards positive infinity.	✔✔
domain	$\{x \in R\}$	✔
range	$\{y \mid y > 0, y \in R\}$	✔

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number of x-intercepts	zero	✔
y-intercept	8	✔
end behaviour	The b-value is $\dfrac{3}{4}$, so this is a decreasing function that extends from Quadrant II to Quadrant I. As the x-values decrease, the graph tends towards positive infinity, and as the x-values increase, the graph tends towards the x-axis.	✔✔
domain	$\{x \in R\}$	✔
range	$\{y \mid y > 0, y \in R\}$	✔
increasing or decreasing	decreasing	✔

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Equation	Graph	Reasoning
i.	b ✔	The *a*-value is 1, so the *y*-intercept is also 1. The *b*-value is 3, so the graph is increasing. ✔
ii.	c ✔	The *a*-value is $\frac{1}{3}$, so the *y*-intercept is also $\frac{1}{3}$. The *b*-value is 3, so the graph is increasing. ✔
iii.	d ✔	The *a*-value is 3, so the *y*-intercept is also 3. The *b*-value is $\frac{1}{3}$, so the graph is decreasing. ✔
iv.	a ✔	The *a*-value is 1, so the *y*-intercept is also 1. The *b*-value is $\frac{1}{3}$, so the graph is decreasing. ✔