$Work sheet-Properties\ of\ Graphs$

Parent Function	f(x)=x	$g(x)=x^2$	$h(x) = \frac{1}{x}$	k(x)= x
Sketch	-5 -4 -3 -2 -1 1 2 3 4 5 -2 -3 -4 -4 -5	10 9 9 8 7 7 6 5 4 3 2 2 1 1 2 3 4 5	5 4 4 3 4 5 4 5 4 5 4 5 4 5 4 5 6 6 6 6 6 6 6 6	5 4 3 2 1 1 2 1 1 2 1 1 2 1 2
Domain	$\{x \in \mathbb{R}\}$	$\{x \in \mathbb{R}\}$	$\{x \in \mathbb{R}, x \neq 0\}$	{ <i>x</i> ∈ I R}
Range	{ <i>y</i> ∈ I R}	$\{y \in \mathbb{R}, y \ge 0\}$	$\{y \in \mathbb{R}, y \neq 0\}$	{ <i>y</i> ∈ℝ, <i>y</i> ≥0}
Intervals of Increase	$(-\infty,\infty)$	$(0,\infty)$	none	(0,∞)
Intervals of Decrease	none	$(-\infty,0)$	$(-\infty,0)$, $(0,\infty)$	$(-\infty,0)$
Location of Discontinuities	none	none	x=0	none
x-intercepts	0	0	none	0
y-intercepts	0	0	none	0
Symmetry	odd	even	odd	even
End Behaviours	$as \ x \to \infty, y \to \infty$ $as \ x \to -\infty, y \to -\infty$	$as \ x \to \infty, y \to \infty$ $as \ x \to -\infty, y \to \infty$	$as x \to \infty, y \to 0$ $as x \to -\infty, y \to 0$	$as \ x \to \infty, y \to \infty$ $as \ x \to -\infty, y \to \infty$

Worksheet – Properties of Graphs

Parent Function	$m(x) = \sqrt{x}$	$p(x)=2^x$	$r(x) = \sin x$	$u(x)=x^3$
Sketch	1 2 3 4 5	-4 -3 -2 -1 1 2 3 4 -2 -1 -1 -2 -2 -1 -1 -2 -2 -1 -1 -2 -2 -1 -1 -2 -2 -1 -1 -1 -2 -2 -1 -1 -1 -2 -2 -1 -1 -2 -2 -1 -1 -1 -2 -2 -1 -1 -1 -2 -2 -1 -1 -2 -2 -1 -1 -1 -2 -1 -1 -2 -1 -1 -1 -2 -1 -1 -1 -2 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	$-\pi$ 2π 7 7 7 7 7 7 7 7 7 7	3 2 1 1 2 3 -3 -2 -3 -4 -5
Domain	$\{x \in \mathbb{R}, x \ge 0\}$	$\{x \in \mathbb{R}\}$	$\{x \in \mathbb{R}\}$	{ <i>x</i> ∈ R }
Range	$\{y \in \mathbb{R}, y \ge 0\}$	{ <i>y</i> ∈ℝ, <i>y</i> >0}	$\{y \in \mathbb{R}, -1 \le y \le 1\}$	{ <i>y</i> ∈ I R}
Intervals of Increase	$[0,\infty)$	$(-\infty,\infty)$	(-90°+360°k,90°+360°k) k∈ℤ	$(-\infty,0)$, $(0,\infty)$
Intervals of Decrease	none	none	(90°+360°k,270°+360°k) k∈ℤ	none
Location of Discontinuities	none	none	none	none
x-intercepts	0	none	$180^{\circ}k, k \in \mathbb{Z}$	0
y-intercepts	0	1	0	0
Symmetry	none	none	odd	odd
End Behaviours	as $x \to \infty$, $y \to \infty$	$as \ x \to \infty, y \to \infty as \ x \to -\infty, y \to 0$	not applicable	$as \ x \to \infty, y \to \infty$ $as \ x \to -\infty, y \to -\infty$