

## Extra exercises

Q(1) The number  $3.\overline{14}$  is rational number

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Q(2) The solution of the inequality  $|3x - 1| \geq 5$  is  $(-\infty, -\frac{4}{3}] \cup [2, \infty)$

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Q(3) The solution of the inequality  $x^2 - 4 \leq 0$  is  $[-2, 2]$

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Q(4) The solution of the inequality  $x^2 - 3x - 10 \leq 0$  is  $[-2, 5]$

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Q(5) The solution of the inequality  $x^2 + 4 \leq 0$  is  $\emptyset$

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Q(6) The domain of the function  $f(x) = \frac{x-2}{x^2+x^4}$  is  $\mathbb{R} - \{0\}$

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Q(7) The domain of the function  $f(x) = \frac{x-3}{\sqrt[3]{x^2-25}}$  is  $\mathbb{R} - \{5, -5\}$

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Q(8) The range of the function  $f(x) = -\sqrt{x}$  is  $(-\infty, 0]$

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Q(9) The equation of the line passing through the points  $(2, -3), (-5, 4)$  is  $y = -x - 1$

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Q(10) The slope of the line  $2y + 5x = 6$  is  $m = -\frac{5}{2}$

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Q(11) The function  $f(x) = \frac{1}{x}$  is decreasing on  $\mathbb{R}^*$

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Q(12) The function  $f(x) = \frac{x^3 - 2x}{x^5 + 3x^5}$  is even function

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Q(13) If  $|3x - 2| = 4$ , then  $x = 2$  or  $x = -\frac{2}{3}$

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Q(14) The equation of the line pass through the point  $(1, -1)$  and perpendicular to the line  $4x - 8y = 12$  is  $y = -2x + 1$

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Q(15) The domain of the function  $f(x) = \log_3(x - 5)$  is  $(5, \infty)$

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Q(16) If  $f(x) = x^2 - 1$  and  $g(x) = \sqrt{x}$ , then  $(g \circ f)(x) = \sqrt{x^2 - 1}$

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Q(17)  $(27)^{2/3} = 81$

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Q(18) The function  $f(x) = 2^x + 3$  is obtained from the function  $f(x) = 2^x$  by shifting 3 units upward

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Q(19) The function  $f(x) = 3^x$  is increasing function

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Q(20) The reflect of the function  $f(x) = \sqrt{x}$  about the  $x$ -axis gives  $y = -\sqrt{x}$