King Abdul Aziz University Faculty of Sciences Mathematics Department
Math 110 First Test Fall 2013 (30 Marks) Time 90 m
Student Name: Student Number: [A]

1) If $f(x)=x+1$, and $g(x)=x-6$, then $(fg)(x)=$

[A] x^2-x-6 [B] x^2+x-6 [C] x^2+5x-6 [D] x^2-5x-6

2) The solution of $x^2-5x-6=0$ is

[A] -1 or 6 [B] -6 or 1 [C] -2 or 3 [D] -3 or 2

3) The solution of the inequality $x^2-5x-6>0$ is

[A] $(-\infty,-1]\cup[6,\infty)$ [B] $(-\infty,-6]\cup[1,\infty)$

[C] $(-\infty,-1)\cup(6,\infty)$ [D] $(-\infty,-6)\cup(1,\infty)$

4) Find the domain of the function $f(x)=\dfrac{x+7}{x^2-5x-6}$.

[A] $\mathbb{R}\setminus\{-6,1\}$ [B] $\mathbb{R}\setminus\{-3,2\}$ [C] $\mathbb{R}\setminus\{-2,3\}$ [D] $\mathbb{R}\setminus\{-1,6\}$

5) Find the equation of the line through the points $(2,8)$ and $(4,3)$.

[A] $y=-\dfrac{5}{2}x+1$ [B] $y=-\dfrac{5}{2}x+7$ [C] $y=\dfrac{5}{2}x+13$ [D] $y=-\dfrac{5}{2}x+13$

6) Find the domain of the function $f(x)=\dfrac{3+\sqrt{x}}{\sqrt{x^2+4}}$.

[A] $[0,\infty)$ [B] $\mathbb{R}$ [C] $(0,\infty)$ [D] $(-\infty,-2)\cup(2,\infty)$

7) Find the slope of the line through the points $(5,-6)$ and $(8,-5)$.

[A] -3 [B] 3 [C] $\dfrac{1}{3}$ [D] $-\dfrac{1}{3}$

8) The equation of the line with slope $m=\dfrac{1}{3}$ and passes through $(5,-6)$ is

[A] $3y-x-13=0$ [B] $3y-x-23=0$

[C] $x-3y-23=0$ [D] $3y+x-13=0$

9) Find the range of the function $f(x)=2-x^2$.

[A] $(-\infty,2]$ [B] $\mathbb{R}=(-\infty,\infty)$ [C] $(-\infty,2)$ [D] $[2,\infty)$

10) The function $f(x)=\dfrac{x^2+1}{x^2-2}$ is

[A] Even [B] Odd [C] Even and odd [D] Neither even nor odd

11) If the graph of the function $f(x)=x^3$ is shifted a distance 2 units to the upward, then the new graph represented the graph of the function is

[A] $(x+2)^3$ [B] $(x-2)^3$ [C] x^3+2 [D] x^3-2

12) The solution of the inequality $|5x+7| \le 3$ is

[A] $\left(-2,-\frac{4}{5}\right)$ [B] $\left(\frac{4}{5},2\right)$ [C] $\left[\frac{4}{5},2\right]$ [D] $\left[-2,-\frac{4}{5}\right]$

13) The solution of the inequality $|5x+7| \ge 3$ is

[A] $\left(-\infty,\frac{4}{5}\right)\cup(2,\infty)$ [B] $\left(-\infty,\frac{4}{5}\right]\cup[2,\infty)$

[C] $(-\infty,-2)\cup\left(-\frac{4}{5},\infty\right)$ [D] $(-\infty,-2]\cup\left[-\frac{4}{5},\infty\right)$

14) The solution of $|4x+7|=3$ is

[A] $\frac{4}{5}$ or 2 [B] -2 or $-\frac{4}{5}$ [C] 1 or $\frac{5}{2}$ [D] $-\frac{5}{2}$ or -1

15) The slope of the line perpendicular to the line $5x-y-2=0$ is

[A] -5 [B] 5 [C] $-\frac{1}{5}$ [D] $\frac{1}{5}$

16) The equation for the line passes through $(-1,3)$ and parallel to the line $3x-y=2$ is

[A] $y=\frac{1}{3}x+4$ [B] $y=-\frac{1}{3}x+2$ [C] $y=3x+6$ [D] $y=-3x$

17) The irrational number is

[A] 3 [B] $\sqrt[3]{8}$ [C] $\sqrt{5}$ [D] $\frac{2}{3}$

18) The function $f(x)=2x^3+1$ is

[A] Cubic [B] Quadratic [C] Linear [D] Constant

19) The equation of the vertical line passes through $(6,3)$ is

[A] $y=3$ [B] $x=3$ [C] $y=6$ [D] $x=6$

20) The distance between the real numbers $\frac{2}{3}$, and 5 is

[A] $-\frac{13}{3}$ [B] $\frac{13}{3}$ [C] $\frac{17}{3}$ [D] $-\frac{17}{3}$

21) If $4(x-1)-3x=2$, then $x=$

[A] -6 [B] 6

[C] -2 [D] 2

22) If $f(x)=\sqrt[3]{x+6}$, then D_f =

[A] $(-\infty,\infty)$ [B] $[-6,\infty)$ [C] $(-6,\infty)$ [D] $(-\infty,-6]$

23) The intersection point of the lines $3x-y+2=0$ and $2x+y+3=0$ is

[A] $(1,1)$ [B] $(-1,1)$ [C] $(-1,-1)$ [D] $(1,-1)$

24) The solution of the inequality $-3x+\frac{3}{2}\le 1$ is

[A] $\left(-\infty,\frac{1}{6}\right]$ [B] $\left(-\infty,\frac{3}{2}\right]$ [C] $\left[\frac{1}{6},\infty\right)$ [D] $\left[\frac{3}{2},\infty\right)$

25) The function $f(x)=e^x$ is

[A] Algebraic [B] Trigonometric [C] Natural exponential [D] Polynomial

26) Find the equation of the line with slope -5 and $y-$intercept 3 is .

[A] $y-5x+3=0$ [B] $y-5x-3=0$ [C] $y+5x+3=0$ [D] $y+5x-3=0$

27) $(-2,7]-[4,9)=$

[A] $(-2,4]$ [B] $(4,7)$ [C] $(4,7]$ [D] $(-2,4)$

28) If $f(x)=\sqrt{x+1}$, and $g(x)=\sqrt{x-6}$, then $D_{\frac{f}{g}}$ =

[A] $[-1,\infty)$ [B] $[6,\infty)$ [C] $(6,\infty)$ [D] $(-1,\infty)$

29) The solution of $2x^2+3x-5=0$ is

[A] -2 or $\frac{5}{4}$ [B] $-\frac{5}{4}$ or 2 [C] $-\frac{5}{2}$ or 1 [D] -1 or $\frac{5}{2}$

30) If $f(x)=\sqrt{x}$, and $g(x)=x+3$, then $(g\circ f)(x)=$

[A] $\sqrt{x}+3$ [B] $\sqrt{x+3}$ [C] $(x+3)\sqrt{x}$ [D] $x+9$

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Student Name: Student Number: [B]

1) If $f(x)=\sqrt{x}$, and $g(x)=x+3$, then $(f\circ g)(x)=$

[A] $\sqrt{x}+3$ [B] $\sqrt{x+3}$ [C] $(x+3)\sqrt{x}$ [D] $x+9$

2) $(-2,7]-(4,9)=$

[A] $(-2,4]$ [B] $(4,7)$ [C] $(4,7]$ [D] $[-2,9)$

3) If the graph of the function $f(x)=x^3$ is shifted a distance 2 units to the downward, then the new graph represented the graph of the function is

[A] $(x+2)^3$ [B] $(x-2)^3$ [C] x^3+2 [D] x^3-2

4) The solution of the inequality $-3x+\frac{3}{2}\geq 1$ is

[A] $\left(-\infty,\frac{1}{6}\right]$ [B] $\left(-\infty,\frac{3}{2}\right]$ [C] $\left[\frac{1}{6},\infty\right)$ [D] $\left[\frac{3}{2},\infty\right)$

5) Find the slope of the line through the points $(-5,-6)$ and $(-8,-5)$.

[A] -3 [B] 3 [C] $\frac{1}{3}$ [D] $-\frac{1}{3}$

6) The equation of the line with slope $m=-\frac{1}{3}$ and passes through $(-5,-6)$ is

[A] $3y-x-13=0$ [B] $3y+x+23=0$
[C] $x-3y+23=0$ [D] $3y+x+13=0$

7) The function $f(x)=3x^2+1$ is

[A] Cubic [B] Quadratic [C] Linear [D] Constant

8) Find the equation of the line through the points $(4,3)$ and $(2,8)$.

[A] $y=-\frac{5}{2}x+1$ [B] $y=-\frac{5}{2}x+13$ [C] $y=-\frac{5}{2}x+7$ [D] $y=\frac{5}{2}x+13$

9) The function $f(x)=\frac{x}{x^2-2}$ is

[A] Even [B] Odd [C] Even and odd [D] Neither even nor odd

10) Find the range of the function $f(x)=3-x^2$.

[A] $[3,\infty)$ [B] $\mathbb{R}=(-\infty,\infty)$
[C] $(-\infty,3)$ [D] $(-\infty,3]$

11) The slope of the line perpendicular to the line $2x + y - 5 = 0$ is

[A] -2 [B] $-\frac{1}{2}$ [C] $\frac{1}{2}$ [D] 2

12) The equation for the line passes through $(-1,6)$ and parallel to the line $5x + y = 1$ is

[A] $y = -\frac{1}{5}x + 5$ [B] $y = -5x + 1$

[C] $y = \frac{1}{5}x - 7$ [D] $y = 5x + 11$

13) The solution of $2x^2 - 3x - 5 = 0$ is

[A] -2 or $\frac{5}{4}$ [B] $-\frac{5}{4}$ or 2 [C] $-\frac{5}{2}$ or 1 [D] -1 or $\frac{5}{2}$

14) The irrational number is

[A] 3 [B] $\sqrt[3]{8}$ [C] $\frac{2}{3}$ [D] $\sqrt{2}$

15) If $f(x) = \sqrt[3]{x-6}$, then $D_f =$

[A] $[6,\infty)$ [B] $(-\infty,\infty)$ [C] $(6,\infty)$ [D] $(-\infty,6]$

16) If $f(x) = \sqrt{x+6}$, and $g(x) = \sqrt{x-1}$, then $D_{\frac{g}{f}} =$

[A] $[1,\infty)$ [B] $[-6,\infty)$ [C] $(-6,\infty)$ [D] $(1,\infty)$

17) The equation of the horizontal line passes through $(6,3)$ is

[A] $y = 3$ [B] $x = 3$ [C] $y = 6$ [D] $x = 6$

18) The function $f(x) = 5^x$ is

[A] Algebraic [B] Trigonometric [C] Polynomial [D] General exponential

19) If $f(x) = x - 1$, and $g(x) = x + 6$, then $(fg)(x) =$

[A] $x^2 - x - 6$ [B] $x^2 + x - 6$ [C] $x^2 + 5x - 6$ [D] $x^2 - 5x - 6$

20) The solution of $x^2 + 5x - 6 = 0$ is

[A] -1 or 6 [B] -6 or 1 [C] -2 or 3 [D] -3 or 2

21) The solution of the inequality $x^2 + 5x - 6 \geq 0$ is

[A] $(-\infty,-6) \cup (1,\infty)$ [B] $(-\infty,-1] \cup [6,\infty)$

[C] $(-\infty,-6] \cup [1,\infty)$ [D] $(-\infty,-1) \cup (6,\infty)$

22) Find the domain of the function $f(x) = \frac{x+7}{x^2+5x-6}$.

[A] $\mathbb{R} \setminus \{-6,1\}$ [B] $\mathbb{R} \setminus \{-3,2\}$ [C] $\mathbb{R} \setminus \{-2,3\}$ [D] $\mathbb{R} \setminus \{-1,6\}$

23) Find the equation of the line with slope 5 and $y-$intercept 3 is

[A] $y-5x+3=0$ [B] $y-5x-3=0$ [C] $y+5x+3=0$ [D] $y+5x-3=0$

24) The distance between the real numbers -4 and $-\frac{2}{3}$ is

[A] $\frac{10}{3}$ [B] $-\frac{10}{3}$ [C] $-\frac{14}{3}$ [D] $\frac{14}{3}$

25) The intersection point of the lines $3x-y-2=0$ and $2x+y-3=0$ is

[A] $(1,1)$ [B] $(-1,1)$ [C] $(-1,-1)$ [D] $(1,-1)$

26) If $3x+4(1-x)=2$, then $x=$

[A] -6 [B] 6 [C] -2 [D] 2

27) Find the domain of the function $f(x)=\frac{\sqrt{x}+3}{\sqrt{x^2+25}}$.

[A] $(-\infty,-5)\cup(5,\infty)$ [B] $\mathbb{R}$ [C] $(0,\infty)$ [D] $[0,\infty)$

28) The solution of $|4x-7|=3$ is

[A] $\frac{4}{5}$ or 2 [B] -2 or $-\frac{4}{5}$ [C] 1 or $\frac{5}{2}$ [D] $-\frac{5}{2}$ or -1

29) The solution of the inequality $|5x+7|<3$ is

[A] $\left(-2,-\frac{4}{5}\right)$ [B] $\left(\frac{4}{5},2\right)$ [C] $\left[\frac{4}{5},2\right]$ [D] $\left[-2,-\frac{4}{5}\right]$

30) The solution of the inequality $|5x+7|>3$ is

[A] $\left(-\infty,\frac{4}{5}\right)\cup(2,\infty)$ [B] $\left(-\infty,\frac{4}{5}\right]\cup[2,\infty)$

[C] $(-\infty,-2)\cup\left(-\frac{4}{5},\infty\right)$ [D] $(-\infty,-2]\cup\left[-\frac{4}{5},\infty\right)$

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1) The slope of the line perpendicular to the line $y + 9x = 1$ is

[A] $-\frac{1}{9}$ [B] 9 [C] $\frac{1}{9}$ [D] -9

2) The equation for the line passes through $(-1,5)$ and parallel to the line $7x - y - 15 = 0$ is

[A] $y = -7x + 5$ [B] $y = -\frac{1}{7}x + 4$ [C] $y = -\frac{1}{7}x - 14$ [D] $y = 7x + 12$

3) The solution of the inequality $-5x + \frac{3}{2} \le 1$ is

[A] $\left[\frac{5}{2}, \infty\right)$ [B] $\left[\frac{1}{10}, \infty\right)$ [C] $\left(-\infty, \frac{5}{2}\right]$ [D] $\left(-\infty, \frac{1}{10}\right]$

4) The solution of $2x^2 + 3x - 5 = 0$ is

[A] -1 or $\frac{5}{2}$ [B] $-\frac{5}{2}$ or 1 [C] -2 or $\frac{5}{4}$ [D] $-\frac{5}{4}$ or 2

5) The distance between the real numbers -5 and $-\frac{2}{3}$ is

[A] $-\frac{13}{3}$ [B] $\frac{13}{3}$ [C] $\frac{17}{3}$ [D] $-\frac{17}{3}$

6) The intersection point of the lines $3x - y + 2 = 0$ and $2x + y + 3 = 0$ is

[A] $(1,-1)$ [B] $(-1,-1)$ [C] $(1,1)$ [D] $(-1,1)$

7) If $f(x) = \sqrt{x}$, and $g(x) = x + 1$, then $(g \circ f)(x) =$

[A] $(x+1)\sqrt{x}$ [B] $x + 1$ [C] $\sqrt{x} + 1$ [D] $\sqrt{x+1}$

8) The function $f(x) = \sin x$ is

[A] Algebraic [B] Trigonometric [C] Natural exponential [D] Polynomial

9) The irrational number is

[A] 3 [B] $\sqrt{3}$ [C] $\frac{2}{3}$ [D] $\sqrt[3]{8}$

10) If $f(x) = \sqrt[3]{x-2}$, then $D_f =$

[A] $[2,\infty)$ [B] $(2,\infty)$
[C] $(-\infty,\infty)$ [D] $(-\infty,2]$

11) If $f(x)=x-2$, and $g(x)=x+3$, then $(fg)(x)=$

[A] x^2-x-6 [B] x^2+x-6 [C] x^2+5x-6 [D] x^2-5x-6

12) The solution of $x^2+x-6=0$ is

[A] -1 or 6 [B] -6 or 1 [C] -2 or 3 [D] -3 or 2

13) The solution of the inequality $x^2+x-6\geq 0$ is

[A] $(-\infty,-3)\cup(2,\infty)$ [B] $(-\infty,-3]\cup[2,\infty)$

[C] $(-\infty,-2)\cup(3,\infty)$ [D] $(-\infty,-2]\cup[3,\infty)$

14) Find the domain of the function $f(x)=\dfrac{x+7}{x^2+x-6}$.

[A] $\mathbb{R}\setminus\{-6,1\}$ [B] $\mathbb{R}\setminus\{-3,2\}$ [C] $\mathbb{R}\setminus\{-2,3\}$ [D] $\mathbb{R}\setminus\{-1,6\}$

15) Find the slope of the line through the points $(8,-5)$ and $(5,-6)$.

[A] $\dfrac{1}{3}$ [B] 3 [C] -3 [D] $-\dfrac{1}{3}$

16) The equation of the line with slope $m=\dfrac{1}{3}$ and passes through $(8,-5)$ is

[A] $3y-x-23=0$ [B] $3y-x-13=0$

[C] $3y+x-13=0$ [D] $x-3y-23=0$

17) Find the equation of the line through the points $(2,8)$ and $(4,3)$.

[A] $y=-\dfrac{5}{2}x+1$ [B] $y=\dfrac{5}{2}x+13$ [C] $y=-\dfrac{5}{2}x+7$ [D] $y=-\dfrac{5}{2}x+13$

18) The equation of the vertical line passes through $(3,6)$ is

[A] $y=3$ [B] $x=3$ [C] $y=6$ [D] $x=6$

19) If $f(x)=\sqrt{x+6}$, and $g(x)=\sqrt{x-1}$, then $D_{\frac{f}{g}}=$

[A] $[1,\infty)$ [B] $[-6,\infty)$ [C] $(-6,\infty)$ [D] $(1,\infty)$

20) If $3x-4(x-1)=2$, then $x=$

[A] -6 [B] 6 [C] -2 [D] 2

21) The solution of $|5x+7|=3$ is

[A] $\dfrac{4}{5}$ or 2 [B] -2 or $-\dfrac{4}{5}$

[C] 1 or $\dfrac{5}{2}$ [D] $-\dfrac{5}{2}$ or -1

22) Find the equation of the line with slope -5 and $y-$intercept -3 is .

[A] $y-5x+3=0$ [B] $y-5x-3=0$ [C] $y+5x+3=0$ [D] $y+5x-3=0$

23) Find the domain of the function $f(x)=\dfrac{5-\sqrt{x}}{\sqrt{x^2+49}}$.

[A] $(-\infty,-7)\cup(7,\infty)$ [B] $[0,\infty)$ [C] $(0,\infty)$ [D] $\mathbb{R}$

24) The function $f(x)=\dfrac{x+1}{x-2}$ is

[A] Even [B] Odd [C] Even and odd [D] Neither even nor odd

25) The solution of the inequality $|5x-7|\geq 3$ is

[A] $\left(-\infty,\dfrac{4}{5}\right)\cup(2,\infty)$ [B] $\left(-\infty,\dfrac{4}{5}\right]\cup[2,\infty)$

[C] $(-\infty,-2)\cup\left(-\dfrac{4}{5},\infty\right)$ [D] $(-\infty,-2]\cup\left[-\dfrac{4}{5},\infty\right)$

26) The solution of the inequality $|5x-7|\leq 3$ is

[A] $\left(-2,-\dfrac{4}{5}\right)$ [B] $\left(\dfrac{4}{5},2\right)$ [C] $\left[\dfrac{4}{5},2\right]$ [D] $\left[-2,-\dfrac{4}{5}\right]$

27) $(-1,7]-[4,9)=$

[A] $(4,7)$ [B] $(-1,4]$ [C] $(-1,4)$ [D] $(4,7]$

28) If the graph of the function $f(x)=x^3$ is shifted a distance 2 units to the right, then the new graph represented the graph of the function is

[A] $(x+2)^3$ [B] $(x-2)^3$ [C] x^3+2 [D] x^3-2

29) Find the range of the function $f(x)=x^2-5$.

[A] $\mathbb{R}=(-\infty,\infty)$ [B] $[-5,\infty)$ [C] $(-\infty,-5)$ [D] $(-\infty,-5]$

30) The function $f(x)=2x+1$ is

[A] Cubic [B] Quadratic [C] Linear [D] Constant

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1) The function $f(x)=3$ is

[A] Cubic [B] Quadratic [C] Linear [D] Constant

2) The distance between the real numbers -4 and $\frac{2}{3}$ is

[A] $\frac{10}{3}$ [B] $-\frac{10}{3}$ [C] $-\frac{14}{3}$ [D] $\frac{14}{3}$

3) Find the slope of the line through the points $(-8,-5)$ and $(-5,-6)$.

[A] -3 [B] $-\frac{1}{3}$ [C] $\frac{1}{3}$ [D] 3

4) The equation of the line with slope $m=-\frac{1}{3}$ and passes through $(-8,-5)$ is

[A] $x-3y+23=0$ [B] $3y+x+13=0$
[C] $3y-x-13=0$ [D] $3y+x+23=0$

5) Find the equation of the line through the points $(4,3)$ and $(2,8)$.

[A] $y=\frac{5}{2}x+13$ [B] $y=-\frac{5}{2}x+1$ [C] $y=-\frac{5}{2}x+7$ [D] $y=-\frac{5}{2}x+13$

6) The slope of the line perpendicular to the line $4x-y=5$ is

[A] $-\frac{1}{4}$ [B] $\frac{1}{4}$ [C] 4 [D] -4

7) The equation for the line passes through $(-1,4)$ and parallel to the line $-8x-y-3=0$ is

[A] $y=8x+12$ [B] $y=\frac{1}{8}x+5$ [C] $y=-\frac{1}{8}x+3$ [D] $y=-8x-4$

8) If $f(x)=\sqrt{x}$, and $g(x)=x+1$, then $(f\circ g)(x)=$

[A] $\sqrt{x}+1$ [B] $x+1$ [C] $(x+1)\sqrt{x}$ [D] $\sqrt{x+1}$

9) Find the equation of the line with slope 5 and $y-$intercept -3 is .

[A] $y-5x+3=0$ [B] $y-5x-3=0$ [C] $y+5x+3=0$ [D] $y+5x-3=0$

10) The irrational number is

[A] $\sqrt{7}$ [B] 3 [C] $\frac{2}{3}$ [D] $\sqrt[3]{8}$

11) If $f(x)=\sqrt[3]{x+2}$, then $D_f =$

[A] $[-2,\infty)$ [B] $(-2,\infty)$ [C] $(-\infty,-2]$ [D] $(-\infty,\infty)$

12) If $3x-4(x+1)=2$, then $x =$

[A] -6 [B] 6 [C] -2 [D] 2

13) The intersection point of the lines $3x-y-2=0$ and $2x+y-3=0$ is

[A] $(1,-1)$ [B] $(-1,-1)$ [C] $(1,1)$ [D] $(-1,1)$

14) The solution of the inequality $-5x+\frac{3}{2}\geq 1$ is

[A] $\left[\frac{5}{2},\infty\right)$ [B] $\left[\frac{1}{10},\infty\right)$ [C] $\left(-\infty,\frac{5}{2}\right]$ [D] $\left(-\infty,\frac{1}{10}\right]$

15) The equation of the horizontal line passes through $(3,6)$ is

[A] $y=3$ [B] $x=3$ [C] $y=6$ [D] $x=6$

16) The function $f(x)=x^3+\sqrt{x}$ is

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17) The solution of $2x^2-3x-5=0$ is

[A] -1 or $\frac{5}{2}$ [B] $-\frac{5}{2}$ or 1 [C] -2 or $\frac{5}{4}$ [D] $-\frac{5}{4}$ or 2

18) If $f(x)=\sqrt{x+1}$, and $g(x)=\sqrt{x-6}$, then $D_{\frac{g}{f}} =$

[A] $[-1,\infty)$ [B] $[6,\infty)$ [C] $(6,\infty)$ [D] $(-1,\infty)$

19) If $f(x)=x+2$, and $g(x)=x-3$, then $(fg)(x)=$

[A] x^2-x-6 [B] x^2+x-6 [C] x^2+5x-6 [D] x^2-5x-6

20) The solution of $x^2-x-6=0$ is

[A] -1 or 6 [B] -6 or 1

[C] -2 or 3 [D] -3 or 2

21) The solution of the inequality $x^2-x-6>0$ is

[A] $(-\infty,-3)\cup(2,\infty)$ [B] $(-\infty,-3]\cup[2,\infty)$

[C] $(-\infty,-2)\cup(3,\infty)$ [D] $(-\infty,-2]\cup[3,\infty)$

22) Find the domain of the function $f(x)=\frac{x+7}{x^2-x-6}$.

[A] $\mathbb{R}\setminus\{-6,1\}$ [B] $\mathbb{R}\setminus\{-3,2\}$

[C] $\mathbb{R}\setminus\{-2,3\}$ [D] $\mathbb{R}\setminus\{-1,6\}$

23) The solution of $|5x-7|=3$ is

[A] $\frac{4}{5}$ or 2 [B] -2 or $-\frac{4}{5}$ [C] 1 or $\frac{5}{2}$ [D] $-\frac{5}{2}$ or -1

24) The solution of the inequality $|5x-7|<3$ is

[A] $\left(-2,-\frac{4}{5}\right)$ [B] $\left(\frac{4}{5},2\right)$ [C] $\left[\frac{4}{5},2\right]$ [D] $\left[-2,-\frac{4}{5}\right]$

25) The solution of the inequality $|5x-7|>3$ is

[A] $\left(-\infty,\frac{4}{5}\right)\cup(2,\infty)$ [B] $\left(-\infty,\frac{4}{5}\right]\cup[2,\infty)$

[C] $(-\infty,-2)\cup\left(-\frac{4}{5},\infty\right)$ [D] $(-\infty,-2]\cup\left[-\frac{4}{5},\infty\right)$

26) Find the domain of the function $f(x)=\frac{7-\sqrt{x}}{\sqrt{x^2+9}}$.

[A] $(-\infty,-3)\cup(3,\infty)$ [B] $\mathbb{R}$ [C] $[0,\infty)$ [D] $(0,\infty)$

27) If the graph of the function $f(x)=x^3$ is shifted a distance 2 units to the left, then the new graph represented the graph of the function is

[A] $(x+2)^3$ [B] $(x-2)^3$ [C] x^3+2 [D] x^3-2

28) Find the range of the function $f(x)=x^2-1$.

[A] $\mathbb{R}=(-\infty,\infty)$ [B] $(-\infty,-1)$ [C] $[-1,\infty)$ [D] $(-\infty,-1]$

29) $(-1,7]-(4,9]=$

[A] $(4,7)$ [B] $(-1,4]$ [C] $[-1,4)$ [D] $(4,7]$

30) The function $f(x)=\frac{x^2+1}{x}$ is

[A] Even [B] Odd [C] Even and odd [D] Neither even nor odd