

2021

8

5

40

$A = \{x \mid |2 - x| \leq 3\}$ $B = \{x \mid |2^x - 2| \leq 2\}$ $f: \mathbb{R} \rightarrow \mathbb{R}, f(x) = A \cap B$
 fl. 3ł fl. 3Q fb, Żwł Q, Żwł

2018

I

2

$A = \{x \mid |x^2 - x| \leq 0\}$ $C_{\mathbb{R}} A$

$\sin U = \frac{1}{3}$ $\cos 2U = 1$
 $\frac{7}{9}$ $\frac{2\sqrt{2}}{9}$ $\frac{2\sqrt{2}}{9}$ $\frac{7}{9}$

2018

$\sin U = \frac{1}{3}$ $\cos 2U = 1$

$|\overline{AB}| = 1$ fl. 3ł $AC = 1$ fl. łł $|\overline{BC}| = 1$ $|\overline{AB} - \overline{BC}| = 1$
 ! 3 ! 2 2 3

2019

II

3

$a = 10.6^{0.6}$ $b = 10.6^{0.5}$ $c = 10.7^{0.5}$
 $a < b < c$ $a < c < b$ $b < c < a$ $c < b < a$

2019

3

$a = 1 \log_2 0.2$ $b = 12^{0.2}$ $c = 10.2^{0.3}$

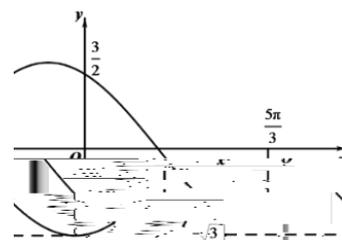
$f(x) = 1 - \lfloor kx \rfloor$ $2x^5$ x^3
 200 120 80 40

2017

6

$\frac{1}{x^2} - \frac{1}{x} + x^6$ x^2

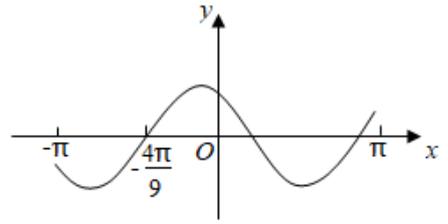
$f(x) = 1 + A \sin(kx)$ $Z = \pi$
 $f(x) = 1 + \sin\left(\frac{x}{3}\right)$ $f(x) = 1 + \sqrt{3} \sin\left(\frac{x}{2} - \frac{\pi}{3}\right)$
 $f(x) = 1 + \sqrt{3} \sin\left(\frac{x}{2} - \frac{2\pi}{3}\right)$ $f(x) = 1 + \sqrt{3} \sin\left(\frac{x}{3} - \frac{2\pi}{3}\right)$



2020

7 $f(x) = 1 + \cos kx$ $z \frac{\pi}{6}$ $0, \pi, \pi C$

$f(x)$



$\frac{1}{4}$

$\frac{1}{3}$

$\frac{5}{16}$

$\frac{2}{5}$

2020 II 7

$f(x) = \begin{cases} e^x, & x < 1 \\ x^2 + 2x, & x \geq 1 \end{cases}$

$g(x) = f(x) + a$

$g(x)$

a

$\frac{1}{e} \leq \frac{1}{e} \leq \frac{1}{e}$

$\frac{1}{e} \leq \frac{1}{e}$

0, 2, 2

$\frac{1}{e} \leq \frac{1}{e}$

2018 I 9

$f(x) = \begin{cases} e^x, & x < 0 \\ \ln x, & x > 0 \end{cases}$

$g(x) = f(x) + x + a$

$g(x)$

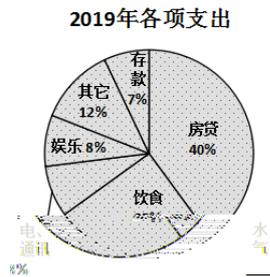
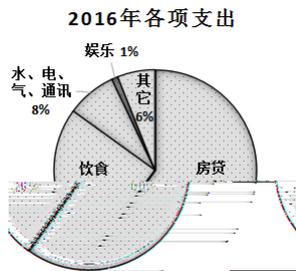
a

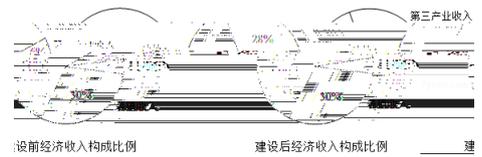
4
5

5
0

20

3





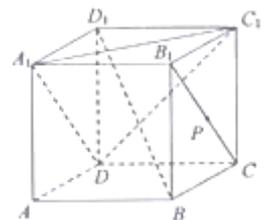
()

$$f(x) = \cos\left(\frac{\pi x}{2}\right) \quad R$$

$$f(x) = \sin(x)$$

2019 I 11 $f(x) = \sin|x|$ $\int |\sin x| dx$

$ABCD$	$A_1B_1C_1D_1$	P	B_1C
B_1D	APC		
P	A_1C_1D		
P	C_1P	A_1C_1D	60°
P	AP	A_1D	60°



1 2017 II 10 $ABC - A_1B_1C_1$ $\angle ABC = 120^\circ$ $AB = 2$ $BC = 1$

2 2018 I 12 α

$$E: \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

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2018 I 8 $C: y^2 = 4x$ $F(-2, 0)$ $\frac{2}{3}$ C

$\vec{FM} \cdot \vec{FN} = ()$

2019 I 16 $C: \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ F_1, F_2

$F_1 C$ $A B$ $\vec{F_1A} = \vec{AB}$ $\vec{F_1B} \cdot \vec{F_2B} = 0$ C

2018 I 11 $C: \frac{x^2}{3} - y^2 = 1$ O $F C$ F

C $M N. \triangle OMN$ $|MN| = ()$

4
 $z = \frac{1-i}{1+i} \cdot 2i$ 5 20
 $|z| = 1$ _____

2018 I 2 $z = \frac{1+i}{1-i} \cdot 2i$ $|z| = 1$

$a_n = 1 - 4n$ $S_n = 1 - 4n$ $a_4 = 1 - 4 = -3$ $S_8 = 1 - 4 \cdot 8 = -31$ $a_9 = 1 - 4 \cdot 9 = -35$ _____
n

2018 I 2 $S_n = 1 - 4n$ $a_n = 1 - 4n$ $S_n = 1 - 4n$ $S_6 = 1 - 4 \cdot 6 = -23$ _____

$C: \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ ($a > 0, b > 0$) $(x-2)^2 + y^2 = 4$ $2\sqrt{3}$

C

2017 II 9 $C: \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ ($a > 0, b > 0$) $(x-2)^2 + y^2 = 4$
 2 C ()

6 6

2020

16