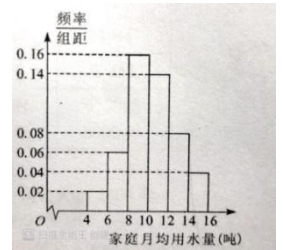


$A = \{x|y = \lg(1-x)\}$   $B = \{y|y = 2^x\}$   $A \cap B = ( )$   
 $(0, +\infty)$   $[-1, 0)$   $(0, 1)$   $(-\infty, 1)$   
 $>$   $+$   $\frac{\quad}{\quad} \geq$   $\in$   $+\infty$   
 $(1+x+x^2)(1-x)^{10}$   $x^4$   $( )$   
 $-135$   $-117$   
 $+$   $=$   $+$   $+$   $+\dots$   $+$   $+$   $+$



$\xi \sim N(1, 2)$   $P(0 < \xi < 1) = 0.26$   $f(x) = e^x + \xi$   $( )$   
 $0.24$   $0.26$   $0.74$   $0.76$

$$\begin{cases} x + y + 2 \geq 0 \\ x - y - 2 \leq 0 \\ y + m \leq 0 \end{cases} \quad z = 2x - y \quad ( )$$

$-1$   
 $a > 0$   $f(x) = \lg(ax^2 + 2x + 3)$   $R$   $g(x) = x + \frac{a}{x}$   $(1, +\infty)$

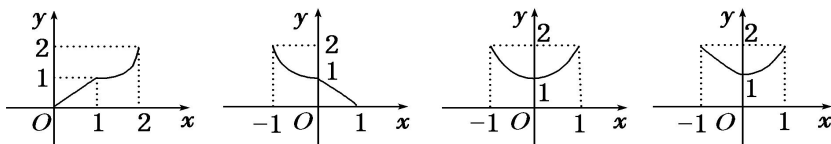
$\neg p \wedge q$   $( )$   
 $(-\infty, 0]$   $(-\infty, \frac{1}{3}]$   $(0, \frac{1}{3}]$   $(\frac{1}{3}, 1]$

$$= \begin{cases} + & - & \geq \\ - & - & < \end{cases} \quad \in R \quad < | \quad | < | \quad |$$

$$- > \quad - <$$

$$+ < \quad + >$$

$$\begin{cases} + \in - \\ + \in \end{cases}$$



$(a)$  的图像  $(b)$  的图像  $(c)$  的图像  $(d)$  的图像

$$f(x) = \frac{x}{1+|x|} (x \in \mathbb{R})$$

$$f(-x) + f(x) = 0 \quad x \in \mathbb{R}$$

$$f(x) \in (-1, 1)$$

$$x_1 \neq x_2$$

$$f(x_1) \neq f(x_2)$$

$$g(x) = f(x) - x$$

$$D_J \quad D_E$$

$$D_J \subsetneq D_E$$

$$\in D_J$$

$$=$$

$$D_E$$

$$= - - >$$

$$R$$

$$< = - -$$

$$> - \cup +\infty \quad \forall \in \quad | - | \leq$$

$$x > 2m^2 - 3 \quad -1 < x < 4$$

$$f(x) \quad x( )$$

$$f(x) = \begin{cases} -\frac{7}{20}x + 1, 0 < x \leq 1, \\ \frac{1}{5} + \frac{9}{20}x^{-\frac{1}{2}}, 1 < x \leq 30. \end{cases}$$

①

② 9

40

③ 26

20

$$.( \quad )$$

$$f(x) = \begin{cases} |\ln x|, x > 0 \\ x^2 + 4x + 1, x \leq 0 \\ b + c \end{cases}$$

$$f^2(x) - bf(x) + c = 0 (b, c \in \mathbb{R})$$

$$f(x) = ||x - 1| - 1|$$

$$f(x) = m(m \in \mathbb{R})$$

$$x_1, x_2, x_3, x_4$$

$$x_1 x_2 x_3 x_4$$

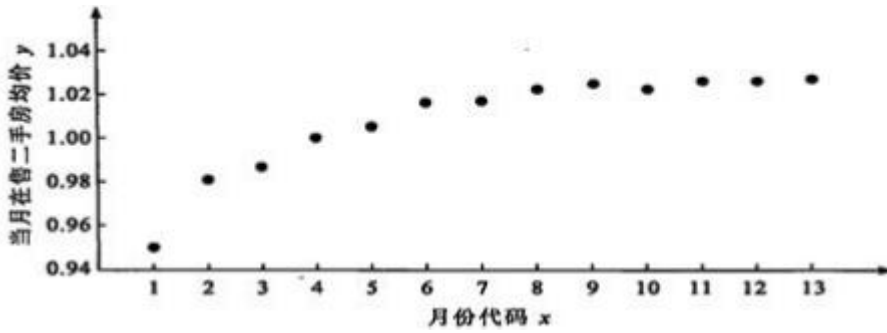
$$\begin{cases} x - y \leq 0, \\ x + y - 5 \geq 0, \\ y - 3 \leq 0, \end{cases}$$



1—13

—2018 )

( / )



$$y = a + b\sqrt{x} \quad y = c + d\ln x$$

$$\hat{y} = 0.9369 + 0.0285\sqrt{x} \quad \hat{y} = 0.9554 + 0.0306\ln x$$

	$\hat{y} = 0.9369 + 0.0285\sqrt{x}$	$\hat{y} = 0.9554 + 0.0306 \ln x$
残差平方和 $\sum_{i=1}^{13} (y_i - \hat{y}_i)^2$	0.000 591	0.000 164
总偏差平方和 $\sum_{i=1}^{13} (y_i - \bar{y})^2$	0.006 050	

(1)

(2)

$$m(70 \leq m \leq 160)$$

(

)

(1)

(i)

$$.( = +$$

0.001 / )

(ii)

.(

)

.(

= )

契税 (买方缴纳)	首套面积 90 平方米以内(含 90 平方米)为 1%；首套面积 90 平方米以上且 144 平方米以内(含 144 平方米)为 1.5%；面积 144 平方米以上或非首套为 3%
增值税 (卖方缴纳)	房产证未满 2 年或满 2 年且面积在 144 平方米以上(不含 144 平方米)为 5.6%；其他情况免征
个人所得税 (卖方缴纳)	首套面积 144 平方米以内(含 144 平方米)为 1%；面积 144 平方米以上或非首套均为 1.5%；房产证满 5 年且是家庭唯一住房的免征

$$\ln 2 \approx 0.69, \ln 3 \approx 1.10, \ln 7 \approx 2.83, \ln 19 \approx 2.94, \sqrt{2} \approx 1.41, \sqrt{3} \approx 1.73, \sqrt{17} \approx 4.12, \sqrt{19} \approx 4.36$$

$$R^2 = 1 - \frac{\sum_{i=1}^n (y_i - \hat{y}_i)^2}{\sum_{i=1}^n (y_i - \bar{y})^2}$$

$\frac{1}{3}$

$\frac{25}{13}$

(1)  $a = 1 \quad f(x) = 2 \cdot 4^x - 2^x - 1 = 2(2^x)^2 - 2^x - 1$

$t = 2^x \quad x \in [-3, 0] \quad t \in [\frac{1}{8}, 1]$

$y = 2t^2 - t - 1 = 2(t - \frac{1}{4})^2 - \frac{9}{8}$

$t \in [\frac{1}{8}, 1] \quad f(x) \quad [-\frac{9}{8}, 0]$

(2)  $2a(2^x)^2 - 2^x - 1 = 0$

$2^x = m > 0 \quad 2am^2 - m - 1 = 0 \quad (0, +\infty)$

$g(m) = 2am^2 - m - 1 \quad g(m) \quad (0, +\infty)$

$a = 0 \quad g(m) = -m - 1 \quad m = -1 < 0$

$a < 0 \quad m = \frac{1}{4a} < 0$

$g(m) \quad (0, +\infty) \quad g(m) < g(0) = -1 \quad g(m) \quad (0, +\infty)$

$a > 0 \quad m = \frac{1}{4a} > 0$

$g(m) \quad (0, \frac{1}{4a}) \quad (\frac{1}{4a}, +\infty) \quad g(\frac{1}{4a}) < g(0) = -1$

$g(m) = 0 \quad (0, +\infty)$

$a > 0$

$(0, +\infty)$

( )


$K^2 = \frac{100 \times (20 \times 15 - 30 \times 35)^2}{55 \times 45 \times 50 \times 50} \approx 9.091 > 6.635$

99%

( )

$\frac{4}{7}$

	$\frac{10}{21}$	$\frac{10}{21}$	$\frac{1}{21}$

$$f(x) = |x-1| + |x+1| = \begin{cases} x+(-x) & x \geq 1 \\ -x+(-x) & x < 1 \end{cases}$$

( )

<

$$\begin{cases} \geq - \\ \leq + \end{cases} \quad - \leq \leq \quad [- ]$$

$$\in [ ] \quad ( ) < ( )$$

$$|x-1| < \in [ ]$$

$$|x-1| < -$$

$$-- < - < -$$

$$-- < < +-$$

$$> -- < +- \in [ ]$$

$$\in [ ] \quad > -- \quad < +-$$

$$\in [ ] \quad = -- \quad = -- = -$$

$$\in [ ] \quad = +- \quad =$$

$$- < <$$

$$\in (- )$$

$$( ) = ( )$$

$$\Leftrightarrow ( ) =$$

$$= ( ) =$$

$$- \leq \leq \quad ( )$$

$$( ) = ( )$$

$$\in( ] \quad ( ) = | - | + = \begin{cases} +(-) & \geq \\ -+(+) & < \end{cases}$$

$$\in( ]$$

$$( ) = +(-) = - <$$

$$( ) \in [ +\infty)$$

$$( ) [ ( ) +\infty) = [ +\infty)$$

$$< ( ) = - + ( + ) = +$$

$$\in( ] \quad \frac{+}{-} - = - <$$

$$= \frac{+}{-} <$$

$$( ) \left( -\infty \frac{+}{-} \right) \quad ( ) \left( -\infty \frac{+}{-} \right)$$

$$( ) \left[ \frac{+}{-} \right) \quad ( ) \left( \frac{+}{-} \right]$$

$$\in( ] = ( ) =$$

$$< < \frac{( + )}{-}$$

$$\in( ] < < \frac{( + )}{-}$$

$$( ) = \frac{( + )}{-} = - \left( + - + \right)$$

$$< ( ( ) ) \quad ( ) \in( ]$$

$$( ) = ( ) = -$$

$$< -$$

*R*

$$(1) \quad \hat{y} = 0.9369 + 0.0285\sqrt{x} \quad \hat{y} = 0.9554 + 0.0306\ln x$$

$$R_1^2 \quad R_2^2$$

$$R_1^2 = 1 - \frac{0.000591}{0.00605}, R_1^2 = 1 - \frac{0.000164}{0.00605} \quad R_1^2 < R_2^2$$

$$\hat{y} = 0.9554 + 0.0306\ln x$$

$$(2) \quad (1) \quad \hat{y} = 0.9554 + 0.0306\ln x$$

$$\hat{y} = 0.9554 + 0.0306\ln 18 =$$

$$0.9554 + 0.0306(\ln 2 + 2\ln 3) \approx 1.044$$

(i)

$$\textcircled{1} \quad 70 \leq m \leq 90 \quad 1\%$$

$$h = m \times 1.044 \times (1\% + 1) = 1.05444m$$

$$\textcircled{2} \quad 90 < m \leq 144 \quad 1.5\%$$

$$h = m \times 1.044 \times (1.5\% + 1) = 1.05966m$$

$$\textcircled{3} \quad 144 < m \leq 160 \quad 3\%$$

$$h = m \times 1.044 \times (3\% + 1) = 1.07532m$$

$$h = \begin{cases} 1.05444m, 70 \leq m \leq 90 \\ 1.05966m, 90 < m \leq 144 \\ 1.07532m, 144 < m \leq 160 \end{cases}$$

$$\therefore \quad 70 \leq m \leq 9 \quad 1.05444m$$

$$90 < m \leq 144 \quad 1.05966m$$

$$144 < m \leq 160 \quad 1.07532m$$

(ii)

$$(i) \quad 70 \leq t \leq 90 \quad 1.05444t$$

$$1.05444t \leq 1.05444 \times 90 < 100$$

$$90 \leq t < 100 \quad 1.05966t$$

$$1.05966t \leq 100 \quad t \leq \frac{100}{1.05966} \frac{100}{1.05966}$$

$$\frac{100}{1.05966} \approx 94.4$$