

PENYELESAIAN FUNGSI KUADRAT 1

1. Jawab : B

Penyelesaian :

$$y = -3x^2 - 18x + 2$$

$$x_p = -\frac{b}{2a} = -\left(\frac{-18}{2(-3)}\right) = -3$$

$$y_p = -(-3)^2 - 18(-3) + 2 = -27 + 54 + 2 = 29$$

jadi titik balik parabola adalah (-3,29)

2. Jawab : A

Penyelesaian :

$$Y = a(x - x_p)^2 + y_p$$

$$Y = a(x - 3)^2 - 4$$

$$5 = a(0 - 3)^2 - 4$$

$$9a = 9$$

$$a = 1$$

$$Y = x^2 - 6x + 5$$

3. Jawab : E

Penyelesaian :

$$6 = 4a + 2b + c \quad (1)$$

$$10 = 16a + 4b + c \quad (2)$$

$$-6 = 64a + 8b + c \quad (3)$$

$$4a + 2b + c = 6$$

$$16a + 4b + c = 10$$

$$\frac{-12 - 2b}{6a + b} = \frac{-4}{2}$$

$$9a + 2b + c = 6$$

$$\frac{64a + 8b + c = -6}{-60a - 6b} = \frac{-6}{12}$$

$$\frac{-60a - 6b}{10a + b} = \frac{12}{-2}$$

$$\begin{aligned} 6a + b &= 2 & \rightarrow & a = -1 ; b = 8 ; c = -6 \\ 10a + b &= -2 \\ -4a &= 4 \\ a &= -1 \end{aligned}$$

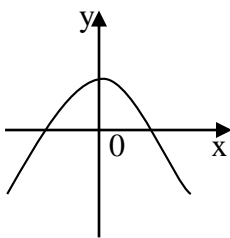
Jadi fungsi kuadrat : $f(x) = -x^2 + 8x - 6$

4. Jawab : C

Penyelesaian : $f : x \rightarrow px^2 + r$

syarat $p < 0$ grafik terbuka kebawah

$r > 0$ memotong sb-y positif



5. Jawab : B

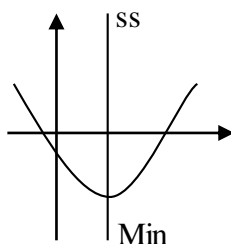
Penyelesaian :

Dari gambar grafik terbuka ke atas $a > 0$

memotong sb-y negatif $c < 0$

memotong sb-x di dua titik berbeda $D > 0$

sb simetri $x = +, x = -\frac{b}{2a}, b < 0,$



Jawab B

6. Jawab : C
 Penyelesaian :
 $a > 0$ grafik terbuka ke atas,
 $b > 0$ sb simetri $x = -$
 $c < 0$ memotong sb-y negatif dan,
 $b^2 - 4ac > 0$ memotong sb-x didua titik yg berbeda

7. Jawab : C
 Penyelesaian :

$$x = -\frac{b}{2a} \rightarrow -1 = -\frac{-(p+1)}{2p}$$

$$-2p = p + 1$$

$$-3p = 1$$

$$p = -\frac{1}{3}$$

8. Jawab : C
 Penyelesaian :

$$x = -\frac{b}{2a}; \quad y = \frac{b^2 - 4ac}{-4a}$$

$$1 = \frac{a}{-2} \quad 2 = \frac{a^2 - 4(1)(b)}{-4(1)}$$

$$a = -2 \quad 2 = \frac{4 - 4b}{-4}$$

$$4 - 4b = -8$$

$$4b = 12$$

$$b = 3$$

9. Jawab : A
 Penyelesaian :
 $f(x) = (a-1)(1)^2 + (a+2)(1) + a$ maka,
 $7 = 3a + 1$ $p + q = (8 - \sqrt{2}) + (8 + \sqrt{2})$
 $a = 2$ $= 16$
 jika $a = 2$ maka $f(x) = x^2 + 4x + 2$

$$x_{1,2} = \frac{16 \pm \sqrt{16-8}}{2}$$

$$x_{1,2} = \frac{16 \pm 2\sqrt{2}}{2}$$

$$x_{1,2} = 8 \pm \sqrt{2}$$

10. Jawab : C
 Penyelesaian :

$$x = -\frac{b}{2a} \rightarrow b = \frac{2(b-1)}{2(b+3)} \rightarrow 2b^2 + 6b = 2b - 2$$

$$2b^2 + 4b + 2 = 0$$

$$b^2 + 2b + 1 = 0 \rightarrow (b+1)^2 = 0$$
 maka: $b = -1$
 jika $b = -1$ maka $f(x) = 4x^2 + 4x - 7$ sehingga tipot dengan sb-y $(0, -7)$