



KEMENTERIAN PENDIDIKAN  
JABATAN PENDIDIKAN NEGERI PERAK



# **MODUL BLUE DIAMOND** *Matematik Tambahan*

## **TINGKATAN 4**

### **Bab 10**

### **NOMBOR INDEKS** *(Index Number)*

## **SKEMA JAWAPAN**

JABATAN PENDIDIKAN NEGERI PERAK  
**We Deliver**

SKEMA JAWAPAN KERTAS 2

| NO. | BUTIRAN |      |                                                                                                                                                                                     | PECAHAN MARKAH | JUMLAH |
|-----|---------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|
| 1   | (a)     |      | $x = \frac{6}{5} \times 100 // 140 = \frac{y}{2} \times 100 // 110 = \frac{8.80}{z} \times 100$ $x = 120$ $y = \text{RM}2.80$ $z = \text{RM} 8.00$                                  | 1<br>1<br>1    | 10     |
|     | (b)     | (i)  | $\frac{120(10) + 140(15) + 150(45) + 110(30)}{100}$ $133.5$                                                                                                                         | 1<br>1         |        |
|     |         | (ii) | $133.5 = \frac{P_{2009}}{80} \times 100$ $\text{RM } 106.80$                                                                                                                        | 1<br>1         |        |
|     |         |      |                                                                                                                                                                                     |                |        |
|     | (c)     |      | $\frac{120 \times 110}{100} // \frac{130 \times 110}{100} // \frac{150 \times 110}{100} // \frac{110 \times 110}{100}$ $\frac{132(10) + 154(15) + 165(45) + 121(30)}{100}$ $146.85$ | 1<br>1<br>1    |        |

Sumber : Ticket To Victory 1 | Kertas 2 | Set 1 | Soalan 15

| NO.         |                       |                                             | BUTIRAN                                                                                                                                                                                                                                                         | PECAHAN MARKAH       | JUMLAH |                    |     |                     |     |                    |     |                       |     |   |    |
|-------------|-----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------|--------------------|-----|---------------------|-----|--------------------|-----|-----------------------|-----|---|----|
| 2           | (a)                   |                                             | <table><tr><td>Tepung/<i>Flour</i></td><td>120</td></tr><tr><td>Gula/<i>Sugar</i></td><td>110</td></tr><tr><td>Yis/<i>Yeast</i>/</td><td>125</td></tr><tr><td>Minyak/<i>Oil</i></td><td>115</td></tr><tr><td>Kismis/<i>Raisin</i></td><td>125</td></tr></table> | Tepung/ <i>Flour</i> | 120    | Gula/ <i>Sugar</i> | 110 | Yis/ <i>Yeast</i> / | 125 | Minyak/ <i>Oil</i> | 115 | Kismis/ <i>Raisin</i> | 125 | 1 | 10 |
|             |                       |                                             | Tepung/ <i>Flour</i>                                                                                                                                                                                                                                            | 120                  |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       |                                             | Gula/ <i>Sugar</i>                                                                                                                                                                                                                                              | 110                  |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       |                                             | Yis/ <i>Yeast</i> /                                                                                                                                                                                                                                             | 125                  |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       |                                             | Minyak/ <i>Oil</i>                                                                                                                                                                                                                                              | 115                  |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             | Kismis/ <i>Raisin</i> | 125                                         |                                                                                                                                                                                                                                                                 |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             | (b)                   | (i)                                         | $p = 5$                                                                                                                                                                                                                                                         | 1                    |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       |                                             | $\frac{120(70) + 110(5) + 125(10) + 115(5) + 125(10)}{100}$                                                                                                                                                                                                     | 1                    |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       |                                             | 120.25                                                                                                                                                                                                                                                          | 1                    |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       | (ii)                                        | $\frac{23320}{P_{2015}} \times 100 = 120.25$                                                                                                                                                                                                                    | 1                    |        |                    |     |                     |     |                    |     |                       |     |   |    |
| RM 19392.93 |                       |                                             | 1                                                                                                                                                                                                                                                               |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |
| (c)         |                       | $\frac{P_{2018}}{1.50} \times 100 = 120.25$ | 1                                                                                                                                                                                                                                                               |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       | RM 1.80                                     | 1                                                                                                                                                                                                                                                               |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       | RM 1.80 – RM 1.50                           | 1                                                                                                                                                                                                                                                               |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |
|             |                       | RM 0.30                                     | 1                                                                                                                                                                                                                                                               |                      |        |                    |     |                     |     |                    |     |                       |     |   |    |

Sumber : Ticket To Victory 1 | Kertas 2 | Set 2 | Soalan 14

| NO. |     |  | BUTIRAN                                                                                                                                                                         | PECAHAN MARKAH               | JUMLAH |
|-----|-----|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|
| 3   | (a) |  | $\frac{Q_{2018}}{Q_{2016}} \times 100 = 148.5 \text{ atau } \frac{Q_{2020}}{Q_{2018}} \times 100 = 110$ $\frac{110 \times 148.5}{100}$ $\frac{163.35}{100} \times 200$ $326.70$ | 1<br><br>1<br><br>1<br><br>1 | 7      |
|     | (b) |  | $\frac{106 \times 5 + 112 \times 4 + 74 \times 3}{5 + 4 + 3}$ $100$                                                                                                             | 1,1<br>1                     |        |

Sumber : Ticket To Victory 1 | Kertas 2 | Set 3 | Soalan 1

| NO. |     |  | BUTIRAN                                                                                                                                                                                                                                                          | PECAHAN MARKAH                 | JUMLAH |
|-----|-----|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------|
| 4   | (a) |  | $\frac{\left(\frac{10}{8} \times 160\right) + \left(\frac{2.60}{2} \times 200\right) + \left(\frac{33.60}{24} \times 280\right) + \left(\frac{21.60}{18} \times 360\right)}{160 + 200 + 280 + 360} \times 100$ $128.4$ $\frac{128.4 \times 128.4}{100}$ $164.87$ | 1,1<br><br>1<br><br>1<br><br>1 |        |
|     | (b) |  | $\frac{10}{8} \times 100 \times \frac{120}{100}$ $\frac{(150 \times 160) + (130 \times 200) + (140 \times 280) + (120 \times 360)}{160 + 200 + 280 + 360}$ $132.4$ $\frac{132.4}{128.4} \times 100$ $103.12$                                                     | 1<br><br>1<br><br>1<br><br>1   |        |

Sumber : Ticket To Victory 1 | Kertas 2 | Set 3 | Soalan 14

| NO. |     |      | BUTIRAN                                                                                                                               | PECAHAN MARKAH   | JUMLAH |
|-----|-----|------|---------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 5   | (a) | (i)  | $\frac{5.60}{x} \times 100 = 140$<br>$x = 4$                                                                                          | 1<br>1           | 10     |
|     |     | (ii) | $y = 140$                                                                                                                             | 1                |        |
|     | (b) |      | $\bar{I} = \frac{140(1) + 120(1) + 125(1)}{3}$<br>$= 128.33$<br>$\bar{I} = \frac{140(8) + 120(12) + 125(10)}{8 + 12 + 10}$<br>$= 127$ | 1<br>1<br>1<br>1 |        |
|     |     | (c)  | $\frac{Q_{17}}{0.50} \times 100 = 133$<br><br>0.67<br><br>746 donut                                                                   | 1<br><br>1<br>1  |        |

Sumber : Ticket To Victory 2 | Kertas 2 | Set 1 | Soalan 13

| NO. |     |      | BUTIRAN                                                                                                                                                                                                            | PECAHAN MARKAH     | JUMLAH |
|-----|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------|
| 6   | (a) | (i)  | $I_{daging} = \frac{600}{500} \times 100 = 120$<br>$I_{buah-buahan} = \frac{360}{300} \times 100 = 120$<br>$I_{sayur-sayuran} = \frac{250}{200} \times 100 = 125$<br>$I_{susu} = \frac{120}{100} \times 100 = 120$ | 2,1                | 10     |
|     |     | (ii) | $= \frac{(120 \times 1) + (120 \times 2) + (125 \times 3) + (120 \times 4)}{10}$<br>$= 121.5$                                                                                                                      | 1<br>1             |        |
|     | (b) |      | $\frac{x + 180(4) + 5y}{10} = 105.2$<br><br>$\frac{x + 180(4) + 3y}{8} = 160$<br><br>$2y = 204$<br><br>$y = 102, x = 110$                                                                                          | 1<br>1<br>1<br>1,1 |        |
|     |     |      |                                                                                                                                                                                                                    |                    |        |

Sumber : Ticket To Victory 2 | Kertas 2 | Set 2 | Soalan 13

| NO. |     |  | BUTIRAN                                                                                                                                                                         | PECAHAN MARKAH   | JUMLAH |
|-----|-----|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 7   | (a) |  | $150 = \frac{9}{3p-q} \times 100$ atau $125 = \frac{11}{p+q} \times 100$<br>Kaedah penyelesaian $3p - q = 6$ dan $p + q = 8.8$<br>(Hapuskan satu anu)<br>$p = 3.7$<br>$q = 5.1$ | 1<br>1<br>1<br>1 | 10     |
|     | (b) |  | $\frac{(120 \times 4) + (150 \times 2) + (125 \times 4)}{4 + 2 + 4}$ $\bar{I} = 128$<br>28%                                                                                     | 1<br>1<br>1      |        |
|     | (c) |  | $128 \times \frac{115}{100}$<br>$128 \times \frac{115}{100} = \frac{P_{23}}{25} \times 100$<br>RM 36.80                                                                         | 1<br>1<br>1      |        |

Sumber : Gerak Gempur | Kertas 2 | Set 1 | Soalan 15

| NO. |     |  | BUTIRAN                                                                                                                                                                                                                                                                         | PECAHAN MARKAH   | JUMLAH |
|-----|-----|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 8   | (a) |  | $\frac{1330}{950} \times 100$<br>140                                                                                                                                                                                                                                            | 1<br>1           | 10     |
|     | (b) |  | $w_B = 30$<br>$\frac{(121 \times 22) + (y \times 28) + (114 \times 20) + (161 \times 30)}{100} = 134.12$ $y = 130$<br>Harga bahan B meningkat 30% pada tahun 2020 berbanding tahun 2016.                                                                                        | 1<br>1<br>1<br>1 |        |
|     | (c) |  | $\frac{121 \times 100}{110}$ atau $\frac{130 \times 100}{125}$ atau $\frac{114 \times 100}{120}$ atau $\frac{161 \times 100}{140}$<br>$\frac{(110 \times 18) + (104 \times 30) + (95 \times 22) + (115 \times 30)}{100}$ $\frac{P_{2020}}{40500} \times 100 = 106.40$ RM 43 092 | 1<br>1<br>1<br>1 |        |

Sumber : Gerak Gempur | Kertas 2 | Set 2 | Soalan 15