

# DBE book

Answers

**Pg. ii – R1**

1a. 80

b. 3 000

c. 10 000

d. 70 000 000

e. 5

f. 90 000

2a.  $100\,000\,000 + 50\,000\,000 + 4\,000\,000 + 700\,000$   
 $+ 90\,000 + 8\,000 + 100 + 5$

b.  $500\,000 + 90\,000 + 2\,000 + 500 + 60 + 2$

c.  $4\,000\,000 + 900\,000 + 70\,000 + 8\,000 + 800 + 70 + 9$

d.  $70\,000 + 7\,000 + 600 + 60 + 6$

e.  $500\,000 + 40\,000 + 9\,000 + 300 + 20 + 7$

f.  $4\,000\,000 + 9$

Pg. iii

3a. 50 000

b. 5 000 000

c. 5 000

d. 50

e. 500 000

f. 5

4a. – 70 000

b. – 20 000

c. – 14

d. – 220 000

e. – 24 000

f. – 5 800

Pg. iii (continue)

|                | Add 10  | Subtract 10 | Add 100 | Subtract 100 | Add 1 000 | Subtract 1 000 | Add 10 000 |
|----------------|---------|-------------|---------|--------------|-----------|----------------|------------|
| <b>475 021</b> | 475 031 | 475 011     | 475 121 | 474 921      | 476 021   | 474 021        | 485 021    |
| <b>835 296</b> | 835 306 | 835 286     | 835 396 | 835 196      | 826 296   | 834 296        | 845 296    |
| <b>789 123</b> | 789 133 | 789 113     | 789 223 | 789 023      | 790 123   | 788 123        | 799 123    |
| <b>336 294</b> | 336 304 | 336 284     | 336 394 | 336 194      | 337 294   | 335 394        | 346 294    |
| <b>428 178</b> | 428 188 | 428 168     | 428 278 | 428 078      | 429 178   | 427 178        | 438 178    |
| <b>164 228</b> | 164 238 | 164 218     | 164 328 | 164 128      | 164 328   | 163228         | 174 228    |

Pg. iv – R2a

1.17 211; 17 235; 17347; 17 678; 17 922; 18 212

2a.  $18\ 212 - 17\ 678 = 534$

b. 17 678

c. Any

d. 17 211

e. 18 212

Pg. iv to v

2.1 571; 1 699; 1 782; 1 999; 2 102; 2 342

a. 1 571

b. 2 342

c.  $2\,341 - 1\,571 = 771$

d. Any

e. Any

f.  $1\,699 + 1\,999 = 3\,698$

Pg. v

3. 34 284; 34 285; 34 286; 34 287; 34 288; 34 289

a. 34 284

b. 34 289

c. 5

d. Any

e. Any

f.  $34\,286 + 34\,287 = 68\,573$

Pg. v – continued

| 21 000 | 22 000 | 23 000 | 24 000 | 25 000 | 26 000 | 27 000 | 28 000 | 29 000 | 30 000 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 31 000 | 32 000 | 33 000 | 34 000 | 35 000 | 36 000 | 37 000 | 38 000 | 39 000 | 40 000 |
| 41 000 | 42 000 | 43 000 | 44 000 | 45 000 | 46 000 | 47 000 | 48 000 | 49 000 | 50 000 |
| 51 000 | 52 000 | 53 000 | 54 000 | 55 000 | 56 000 | 57 000 | 58 000 | 59 000 | 60 000 |
| 61 000 | 62 000 | 63 000 | 64 000 | 65 000 | 66 000 | 67 000 | 68 000 | 69 000 | 70 000 |



Pg. vi – R2b

a. 21 216

b. 319 020

c. 13 397

6. example: 299 996

a. 331 349

b. 549 323

c. 508 614

7a. 421 178; 421 179; 421 180; 421 181; 421 182;  
421 183

b. 543 687; 543 688; 543 689; 543 690; 543 691

c. 903 675; 903 676; 903 677; 903 678; 903 679

Pg. vii

8a. 564 747; 564 746; 564 745; 564 744; 564 743

b. 907 570; 907 569; 907 568; 907 567; 907 566

c. 352 703; 352 702; 352 701; 352 700; 352 699

Pg. vii

9a. <

c. <

e. >

b. <

d. >

f. >

10a. <

c. <

e. >

b. =

d. <

f. <

Pg. viii – R3

a.  $1 \times 9 / 9 \times 1 / 3 \times 3$

b.  $1 \times 18 / 18 \times 1 / 2 \times 9 / 9 \times 2 / 3 \times 6 / 6 \times 3$

c.  $1 \times 155 / 155 \times 1 / 5 \times 31 / 31 \times 5$

d.  $1 \times 57 / 57 \times 1 / 3 \times 19 / 19 \times 3$

e.  $1 \times 39 / 39 \times 1 / 3 \times 13 / 13 \times 3$

f.  $1 \times 68 / 68 \times 1 / 2 \times 34 / 34 \times 2$

Pg. ix

2.

Pg. ix - continued

3a.  $2 \times 2 \times 3 \times 3$

b.  $2 \times 2 \times 3 \times 5$

c.  $3 \times 5 \times 7$

d.  $2 \times 2 \times 3 \times 5 \times 7$

e.  $2 \times 2 \times 2 \times 2 \times 3$  f.  $2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 5$

4. – Prime numbers

Pg. x – R4

1.



2a. 10

b. 0

c. 80

d. 60

e. 330

f. 450

3a. 0

b. 100

c. 0

d. 800

e. 900

f. 1 800

4. 0

b. 0

c. 2 000

d. 9 000

e. 14 000

f. 67 000

Pg. xi

|          | Nearest 10 | Nearest 100 | Nearest 1 000 |
|----------|------------|-------------|---------------|
| a. 7 632 | 7 630      | 7 600       | 8 000         |
| b. 8 471 | 8 470      | 8 500       | 8 000         |
| c. 9 848 | 9 850      | 9 800       | 10 000        |
| d. 5 737 | 5 740      | 5 700       | 6 000         |
| e. 9 090 | 9 090      | 9 100       | 9 000         |

Pg. xi – continued

6a. 5

b. 5

c. 470

d. 590

e. 2 370

f. 3 470



Pg. xi - continued

|          | Nearest 10 | Nearest 100 | Nearest 1 000 |
|----------|------------|-------------|---------------|
| a. 2     | 0          | 0           | 0             |
| b. 7     | 10         | 0           | 0             |
| c. 48    | 50         | 0           | 0             |
| d. 781   | 780        | 800         | 1 000         |
| e. 345   | 350        | 300         | 0             |
| f. 2 897 | 2 900      | 2 900       | 3 000         |

Pg. xii- xv

1a. 99 595  
c. 324 241

b. 98 078  
d. 437 633

2a. 39 211  
c. 194 843

b. 57 886  
d. 232 765

3a. 21 627  
c. 33 017

b. 42 267  
d. 426 496

4a. 1 127  
c. 115,6

b. 117,25

Pg. xvi

1a. M2{ 2; 4; 6; 8; 10; 12}

M6{ 6; 12; 18; 24; 30; 36}

b. M3{ 3; 6; 9; 12; 15; 18}

M9{ 9; 18; 27; 36; 45; 54}

c. M4{ 4; 8; 12; 16; 20; 24; 28}

M7{ 7; 14; 21; 28; 35; 42}

d. M5{ 5; 10; 15; 20; 25; 30; 35; 40}

M8{ 8; 16; 24; 32; 40; 48}

e. M4{ 4; 8; 12; 16; 20; 24}

M5{ 5; 10; 15; 20; 25; 30}

2a. 6

b. 9

c. 28

d. 40

e. 20

Pg. xvii

3a. F12{ 1; 2; 3; 4; 6; 12}

F24{ 1; 2; 3; 4; 6; 8; 12; 24}

b. F28{ 1; 2; 4; 7; 14; 28}

F21{ 1; 3; 7; 21}

c. F15{ 1; 3; 5; 15}

F18 { 1; 2; 3; 6; 9; 18}

d. F24{ 1; 2; 3; 4; 6; 8; 12; 24}

F60{ 1; 2; 3; 4; 5; 6; 10; 12; 15;20; 30; 60}

e. F18{ 1; 2; 3; 6; 9; 18}

F81{1; 3; 9; 27; 81}

**Pg. xvii**

4a. 12

b. 7

c. 3

d. 12

e. 9

Pg. xvii no.5.

| Number | Factors           | How many factors? | Prime or composite |
|--------|-------------------|-------------------|--------------------|
| a. 12  | 1; 2; 3; 4; 6; 12 | 6                 | Composite          |
| b. 41  | 1;41              | 2                 | Prime              |
| c. 63  | 1; 3; 21; 63      | 4                 | Composite          |
| d. 77  | 1; 7; 11; 77      | 4                 | Composite          |
| e. 33  | 1; 3; 11; 33      | 4                 | Composite          |
| f. 121 | 1; 11; 121        | 3                 | Composite          |

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|        |               |
|--------|---------------|
| 6a. 29 | $3 + 7 + 10$  |
| b. 83  | $5 + 31 + 47$ |
| c. 55  | $3 + 5 + 47$  |
| d. 53  | $5 + 17 + 31$ |
| e. 99  | $3 + 7 + 83$  |

**Pg. xviii**

1.

b. 5    c. 4    d. 18    e. 1    f. 3    g. 15    h. 14    i. 3    j. 80

2.

*a.*  $\frac{16}{48} = \frac{32}{96} = \frac{64}{192}$  (multiply by 2)

*b.*  $\frac{81}{405} = \frac{243}{1215} = \frac{729}{3645}$  (multiply by 3)



**Pg. xix**

$$3a. \frac{40}{48} = \frac{80}{96} = \frac{160}{192}$$

$$b. \frac{81}{108} = \frac{243}{324} = \frac{729}{972}$$

$$c. \frac{72}{88} = \frac{144}{176} = \frac{288}{352}$$

$$d. \frac{125}{875} = \frac{625}{4375} = \frac{3125}{21875}$$

Pg. xix

4a. 3

b. 4

5a.  $\frac{5}{8}$

c.  $\frac{2}{6}$  or  $\frac{1}{3}$

6a.  $\frac{3}{8}$

b.  $\frac{6}{14}$  or  $\frac{3}{7}$

7a.  $\frac{10}{14} + \frac{2}{14}$   
 $= \frac{12}{14}$   
 $= \frac{6}{7}$

b.  $\frac{21}{27} + \frac{1}{27}$   
 $= \frac{22}{27}$

Pg. xx

a.  $M3 = \{2; 6; 9; 12\}$   
 $M4 = \{4; 8; 12\}$   
 $LCM = 12$

b.  $M5 = \{5; 10; 15; 20; 25; 30\}$   
 $M6 = \{6; 12; 18; 24; 30\}$   
 $LCM = 30$

9a.  $2\frac{1}{4} + 5\frac{2}{4}$   
 $= \frac{9}{4} + \frac{22}{4}$   
 $= \frac{31}{4} = 7\frac{3}{4}$

b.  $7\frac{1}{8} - 3$   
 $= 4\frac{1}{8}$

c.  $5\frac{1}{3} + 1\frac{2}{4}$   
 $= \frac{16}{3} + \frac{6}{4}$   
 $= \frac{64}{12} + \frac{18}{12}$   
 $= \frac{82}{12} = 6\frac{10}{12} = 6\frac{5}{6}$

d.  $4\frac{3}{8} - 3\frac{4}{6}$   
 $= \frac{35}{8} - \frac{22}{6}$   
 $= \frac{105}{24} - \frac{88}{24}$   
 $= \frac{17}{24}$

Pg. xxi

11a. 1,2 million  
c. 600 000  
e. 1 100 000

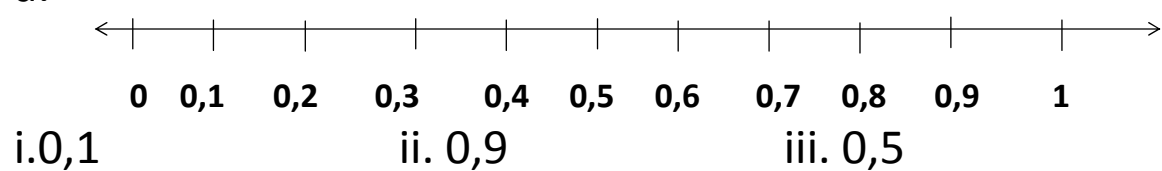
b. 200 000  
d. 900 000

12a. 25%  
c. 75%

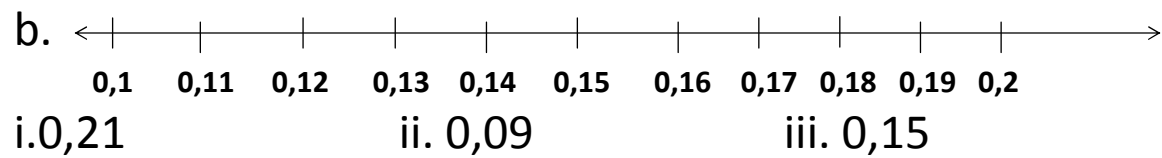
b. 50%  
d. 0%

Pg. xxii

a.

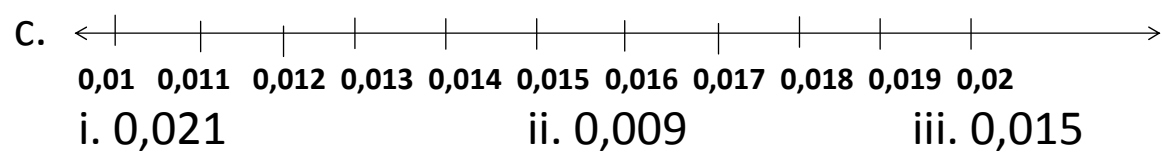


b.



Pg. xxiii

c.



Pg. xxiii

2.

| Number    | Add 0,1 | Add 0,01 | Add 0,001 | Subtract 0,1 | Subtract 0,01 | Subtract 0,001 |
|-----------|---------|----------|-----------|--------------|---------------|----------------|
| a.0,657   | 0,757   | 0,667    | 0,658     | 0,557        | 0,647         | 0,656          |
| b.232,232 | 232,332 | 232,242  | 232,233   | 232,132      | 232,222       | 232,231        |

3a. 0,5

b. 0,04

4a. + 0,04 + 0,002

b. 400 + 50 + 6 + 0,3 + 0,02 + 0,001