

Y5 Summer School

Booklet 2 Answer Key

MathSection

1. b) 0.22, 0.28

- a. Explanation: The pattern is to add 0.06 to each number.
- i. $0.04 + 0.06 = 0.10$
 - ii. $0.10 + 0.06 = 0.16$
 - iii. $0.16 + 0.06 = 0.22$
 - iv. $0.22 + 0.06 = 0.28$

2.a) c) 0.3, b) a) 0.34,
c) b) 0.7

- a. Explanation a): 103 is "three tenths," which is written as 0.3.
- b. Explanation b): To convert 5017 to a decimal, make the denominator 100. Multiply the numerator and denominator by 2: $50 \times 2 = 100$, $17 \times 2 = 34$, which is 0.34.

- c. Explanation c): To convert 2014, you can simplify the fraction to 107, which is 0.7.

3.a) 8.38

- a. Explanation: Set up the subtraction problem, aligning the decimal points.
- i. $52.28 - 43.90 = 8.38$

4.b) 1.945

- a. Explanation: To find the number halfway between two numbers, find their average.
- i. $(1.9 + 1.99) \div 2 = 1.945$

5.b) 2.03

- a. Explanation: Set up the addition problem, aligning the decimal points.
- i. $1.83 + 0.20 = 2.03$

6.b) 203

- a. Explanation: 0.15 is the same as $\frac{15}{100}$. To simplify, divide numerator and denominator by their greatest common factor, which is 5.
- i. $15 \div 5 = 3$
 - ii. $100 \div 5 = 20$
 - iii. The simplified fraction is $\frac{3}{20}$.

7.c) 21

- a. Explanation: Dividing by a decimal can be tricky. You can make it easier by multiplying both numbers by 10 to get rid of the decimal.
- i. $4.2 + 0.2$ is the same as $42 + 2$, which equals 21.

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8. a) 4.08

a. **Explanation:** Multiply the numbers as if there were no decimals ($34 \times 12 = 408$). Then, count the total number of decimal places in the original numbers (one in 3.4 and one in 1.2, for a total of two). Place the decimal point two places from the right in your answer: **4.08**.

9. c) 18.49

a. **Explanation:** The calculation 4.3×4.3 will use the same digits as 43×43 . Since there is one decimal place in each number being multiplied, the answer will have a total of two decimal places.
i. $43 \times 43 = 1849 \Rightarrow$
 $4.3 \times 4.3 = 18.49$

10. b) 0.73

a. **Explanation:** The largest number is 0.9 (or 0.90) and the smallest is 0.17.
i. $0.90 - 0.17 = 0.73$

11. c) 52

a. **Explanation:** 0.4 is "four tenths," or $\frac{4}{10}$. Simplified by dividing the top and bottom by 2, this becomes $\frac{2}{5}$.

12. b) 251

a. **Explanation:** 0.04 is "four hundredths," or $\frac{4}{100}$. Simplified by dividing the top and bottom by 4, this becomes $\frac{1}{25}$.

13. c) 250101

a. **Explanation:** 0.404 is "four hundred four thousandths," or $\frac{404}{1000}$.

$\frac{1000404}{4}$. Dividing the top and bottom by 4 gives 250101, which cannot be simplified further.

14. a) 0.125

a. **Explanation:** To write 81 as a decimal, you perform the division $1 \div 8$, which equals **0.125**.

15. d) 0.0125

a. **Explanation:** Since $81 = 0.125$, then 801 is ten times smaller. You can find the answer by dividing 0.125 by 10, which means moving the decimal point one place to the left: **0.0125**.

16. a) 0.0375

a. **Explanation:** From the previous question, we know $801 = 0.0125$. To find 803, simply multiply that answer by 3.

$$\text{i. } 3 \times 0.0125 = 0.0375$$

17. a) 35/100 (which is 0.35)

a. **Explanation:** The grid is 10×10 , for a total of 100 squares. There are **35** shaded squares (3 full columns of 10, plus 5 more). This is 10035 of the square, or 0.35 as a decimal.

18. b) 0.4

a. **Explanation:** To convert 52 to a decimal, you can make the denominator 10.

$$\text{i. } 5 \times 22 \times 2 = 104, \text{ which is } \mathbf{0.4}.$$

19. d) 125

a. **Explanation:** Convert each number to a decimal to easily compare them.

$$\text{i. } 31 \approx 0.333$$

$$\text{ii. } 0.3$$

$$\text{iii. } 125 \approx 0.417$$

$$\text{iv. } 0.375$$

$$\text{v. } 114 \approx 0.364$$

b. The largest decimal value is approximately 0.417, which is 125.

20. a) 0.005, 0.024, 1.006, 1.01

a. **Explanation:** The numbers with 0 in the ones place come first. 0.005 is smaller than 0.024. For the numbers with 1 in the ones place, 1.006 is smaller than 1.01.

21. c) 63

a. **Explanation:** To make a profit, Peter's sales must be greater than his costs of £50. First, find how many bars he must sell to cover his costs (break even).

$$\text{i. Break-even point: } £50 \div £0.80 \text{ (80p)} = 62.5 \text{ bars.}$$

ii. Since he can't sell half a bar, he must sell the next whole number to make a profit. Therefore, he must sell **63 bars**.

22. a) £6.49

a. **Explanation:** Add the cost of the three items from the menu.

- i. Tea (£1.05) + Sandwich (£2.65) + Cake (£2.79) = **£6.49**.

23. a) £1.70

a. **Explanation:** Find the cheapest food and the cheapest drink and add their prices together.

- i. Cheapest food: Toast (95p or £0.95)
- ii. Cheapest drink: Tea (75p or £0.75)
- iii. Total: £0.95 + £0.75 = **£1.70**.

24. a) Burger and Coffee

a. **Explanation:** First, find out how much Lee spent by subtracting his change from the money he paid.

$$\text{i. } £5.00 - £1.35 = £3.65.$$

b. Next, check which food and drink combination from the options costs £3.65.

$$\text{i. Burger (£2.85) + Coffee (80p or £0.80) = } \mathbf{£3.65}.$$

25. b) £6.64

a. **Explanation:** First, calculate the total cost of the pens.

$$\text{i. } 6 \text{ pens} \times 56\text{p} = 336\text{p, which is } £3.36.$$

b. Then, subtract the total cost from the amount paid.

$$\text{i. } £10.00 - £3.36 = \mathbf{£6.64}.$$

26. a) 50p, 20p, 5p, 1p

a. **Explanation:** First, calculate the amount of change Stephen received.

$$\text{i. } £5.00 - £4.24 = £0.76, \text{ or } 76\text{p}.$$

b. Next, find which combination of four coins from the options adds up to 76p.

$$\text{i. } 50\text{p} + 20\text{p} + 5\text{p} + 1\text{p} = \mathbf{76\text{p}}.$$

Punctuation

27. Answer: B

Error: The word "diwali" is a proper noun (the name of a specific festival) and should be capitalized.

Correction: Millions of people celebrate Diwali, a festival of lights, each year.

28. Answer: D

Error: "Charlotte's web" is the title of a book and should be capitalized accordingly.

Correction: One of my sister Katie's favourite children's books was Charlotte's Web.

29. Answer: E

Explanation: There are no punctuation mistakes in this sentence. All words are capitalized and spelled correctly, and there are no comma errors.

30. Answer: D

Error: "Dominican republic" is a proper noun (the name of a country) and should be fully capitalized.

Correction: The islands of the Caribbean include Cuba, Jamaica and the Dominican Republic.

31. Answer: B

Error: This is a run-on sentence. The two independent clauses ("I can't believe you're doing this" and "There are much better solutions to this problem") are joined together without proper punctuation.

Correction: I can't believe you're doing this. There are much better solutions to this problem. (A period is needed to separate the two complete thoughts).

32. Answer: C

Error: The semicolon is used incorrectly. A semicolon should separate two independent clauses, but "growing larger and larger" is a dependent phrase, not a complete sentence. A comma should be used instead to set off the descriptive phrase.

Correction: The rain cloud gradually covered the entire town, growing larger and larger.

33. Answer: A

Error: An unnecessary comma is placed after "Edgar". The name "Edgar" is essential information identifying "The boys' father" and should not be set off by commas as if it were non-essential information.

Correction: The boys' father, Edgar, was known in the village as an honest and upright citizen. (The comma after Edgar should be removed).

34. Answer: A Error: The word "shed" is missing an apostrophe. It should be the contraction "she'd" for "she would". Correction: I think she'd rather not get involved...

35. Answer: B Error: The conjunctive adverb "Nevertheless" should be followed by a comma when it starts a sentence and connects back to the previous one. Correction: ...Nevertheless, he was content with his performance.

36. Answer: A Error: The word "Whats" is missing an apostrophe. It should be the contraction "What's" for "What is". Correction: "What's wrong with you?"...

37. Answer: A Error: When a dialogue tag (like "Kathy scowled") follows a piece of dialogue, a comma or question mark is needed inside the quotation marks. Correction: "Isn't it obvious?" Kathy scowled.

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38.Answer: D

Explanation: a semicolon is needed after the word classes.

39.Answer: B

Error: The word "french" is a proper noun (referring to a language) and should be capitalized.

Correction: ...and double French.

40.Answer: D

Explanation: A closing quotation mark is needed after the word bad.

Best Word

41.D) asks

42.A) take

43.D) which

44.E) ensure

45.B) are

46.D) concerns

47.C) duty

48.E) sure

49.C) for

50.A) works

51.B) would have

52.C) was

53.A) didn't

Spelling

54.Answer: A

Error: The word anual is misspelled.

Correction: The correct spelling is annual.

55.Answer: A

Explanation: There is a spelling mistake in this line. The correct is 'Although'

56.Answer: C

Error: The word spechal is misspelled.

Correction: The correct spelling is special.

57.Answer: D

Error: The word poplar (a type of tree) is used incorrectly.

Correction: The correct word, meaning well-liked, is popular.

58.Answer: D

Error: The word deside is misspelled.

Correction: The correct spelling is decide.

59.Answer: B

Error: The word definately is misspelled.

Correction: The correct spelling is definitely.

60.Answer: D

Error: The word ptant is misspelled.

Correction: The correct spelling is paint.

61.Answer: B

Error: The word buzing is misspelled.

Correction: The correct spelling is buzzing.

Non Verbal Reasoning Section

63. Straight lined Quadrilaterals. Option A is a Square. **Answer A**

64. 5 limbed Star shapes with another shape on the inside. All limbs are of the same length. E is the most similar. **Answer E**

65. Bordered Circle with dashed Circles on the inside. D is the most similar. **Answer D**

66. Free drawn Loop with one coil in the Loop. There is a shape inside the Loop. E is the most similar. **Answer E**

67.

Right Angled Triangle with another shape

inside it. C is the most similar. **Answer C**

68. Single headed Arrows of various sorts going through and out the middle of a circle. B is the most similar. **Answer B**

69. Identical shape placed on the end of each line. Lines equalling the same amount of edges of the shape, intersecting perpendicular to the main Line at the middle. A is the most similar.

Answer A

70. Half of the total area of shape coloured black. Symmetrical arrangement of black and white colouring. A is the most similar. **Answer A**

71. Larger shape with 2 less sides than it inside. D is the most similar.

Answer D

72. Transparent 3 Dimensional shape in upright formation. A is the most similar. **Answer A**

73. Polygonal shape separated by horizontal line and then a line creating 2 further quadrilaterals. **Answer C**

74. Image of various arrows, shapes and symbols rotated around. D is the most similar.

Answer D

75. Inside of Circles on either side of the line are the same amount of Shapes. Inside Squares There is one more shape

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on one side than the other. No shapes should touch. Non interlocking shapes in circles, interlocking in rectangles. **Answer E**

76. Each image has a shape with a certain number of sides. Inside there is one less distinct shape to the shape it is encompassing. So there may be a 4 sided shape with 4 shapes inside, but 2 of the shapes inside may be the same. Thus 3 distinct shapes. **Answer D**

77. Every image contains at least 1 rectangle and one trapezium. Other Shapes, Lines and arrows are distractors. C is the most similar. **Answer C**

78. Two distinct, non overlapping Shapes, with various amounts of triangles and arrows. **Answer C**

79. 1 Quadrilateral, 4 small right angled Triangles, 3 of them white one black. Only 2 arrangements of these triangles in any one image meaning 2 triangles will be orientated the same way. The black Triangle is always within the Quadrilateral. **Answer A**

80. 3 Shapes overlapping one over another. No 2 Shapes share the same point under or above another Shape. Meaning there is a bottom shape, 1 in the middle and one on top. **Answer B**

81. 4 possible arrangements of black Semi-Circle within the 4 Circles. Each Circle has its own arrangement; none should be shared with another. D is most similar. **Answer D**

VR - Mirror Codes

82.A) OVW

Rule: The code uses the reverse alphabet (A=Z, B=Y, C=X, etc.). For BED, B is the 2nd letter, and its reverse is Y. E is the 5th, its reverse is V. D is the 4th, its reverse is W.

Application: For LED, L is the 12th letter, its reverse is O. E is the 5th, its reverse is V. D is the 4th, its reverse is W. The correct code should be OVW.

83.A) VZG

Rule: The code uses the reverse alphabet. For AID, A → Z, I → R, D → W.

Application: For EAT, E is the 5th letter, its reverse is V. A is the 1st, its reverse is Z. T is the 20th, its reverse is G.

84.C) SRG

Rule: The code uses the reverse alphabet. For YES, Y → B, E → V, S → H.

Application: For HIT, H is the 8th letter, its reverse is S. I is the 9th, its reverse is R. T is the 20th, its reverse is G. The correct code is SRG.

85.B) NZM Each letter is replaced with its opposite letter in the alphabet. For example, A becomes Z, B becomes Y, G becomes T, and M becomes N. Applying this rule to MAN gives M → N, A → Z, and N → M, so the code is NZM.

86.A) GHTG Rule: The pattern for BAKE → CZLD is an alternating shift: B(+1)C, A(-1)Z, K(+1)L, E(-1)D. Application: Applying this to FISH: F(+1)G, I(-1)H, S(+1)T, H(-1)G.

87.A) JQUG Rule: The pattern for BAND → DCPF is to shift every letter forward by 2 places (+2). Application: Applying this to HOSE: H(+2)J, O(+2)Q, S(+2)U, E(+2)G.

88.A) UXEB Rule: The pattern for JUNE → MXQH is to shift every letter forward by 3 places (+3). Application: Applying this to RUBY: R(+3)U, U(+3)X, B(+3)E, Y(+3)B (wraps around from Z).

89.C) DIVER

Rule: This is a decoding question. The rule for CHILD → ELDTN is to add increasing even numbers: C(+2)E, H(+4)L, I(+6)O, L(+8)T, D(+10)N.

Application: To decode FMBMB, you do the opposite (subtract): F(-2)D, M(-4)I, B(-6)V, M(-8)E, B(-10)R.

90.A) EXAMPLE

Rule: This is a decoding question. The rule for ANNOYED → BQSVHPQ is to add increasing odd numbers: A(+1)B, N(+3)Q, N(+5)S, O(+7)V, Y(+9)H, E(+11)P, D(+13)Q.

Application: To decode FAFTYWR, you subtract: F(-1)E, A(-3)X, F(-5)A, T(-7)M, Y(-9)P, W(-11)L, R(-13)E.

91.C) DANCE

Rule: This is a decoding question. The rule for STAND → QPUFT is to subtract increasing even numbers: S(-2)Q, T(-4)P, A(-6)U, N(-8)F, D(-10)T.

Application: To decode BWHUU, you do the opposite (add): B(+2)D, W(+4)A, H(+6)N, U(+8)C, U(+10)E.

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92.B) KLMB

Rule: The code uses the reverse alphabet (A=Z, B=Y, etc.). For HORSE, H(8th) is S(8th from end), O(15th) is L(15th from end), R(18th) is I(18th from end), S(19th) is H(19th from end), E(5th) is V(5th from end).

Application: For PONY, P(16th) -> K(16th from end), O(15th) -> L(15th from end), N(14th) -> M(14th from end), Y(25th) -> B(25th from end).

93.A) ZMTIB

Rule: The code uses the reverse alphabet. For HAPPY, H -> S, A -> Z, P -> K, Y -> B. Application: For ANGRY, A -> Z, N -> M, G -> T, R -> I, Y -> B.

94.B) RMHVXG

Rule: The code uses the reverse alphabet. For ANIMAL, A -> Z, N -> M, I -> R, M -> N, A -> Z, L -> O.

Application: For INSECT, I -> R, N -> M, S -> H, E -> V, C -> X, T -> G.

95.A) XLDH

Rule: The code uses the reverse alphabet. For SHEEP, S -> H, H -> S, E -> V, P -> K. Application: For COWS, C -> X, O -> L, W -> D, S -> H.

96.A) HRMT Rule: The code uses the reverse alphabet. For DANCE, D -> W, A -> Z, N -> M, C -> X, E -> V. Application: For SING, S -> H, I -> R, N -> M, G -> T.

97.A) XLZXS Rule: The code uses the reverse alphabet. For TRAIN, T -> G, R -> I, A -> Z, I -> R, N -> M. Application: For COACH, C -> X, O -> L, A -> Z, C -> X, H -> S.

98.B) GIRAFFE Rule: Decoding. The original word is the reverse alphabet of the code. For MONKEY, M -> N, O -> L, N -> M, K -> P, E -> V, Y -> B. Application: To decode TRIZUUV, find the reverse of each letter: T -> G, R -> I, I -> R, Z -> A, U -> F, U -> F, V -> E.

99.C) PLANE Rule: Decoding. The original word is the reverse alphabet of the code. For PILOT, P -> K, I -> R, L -> O, O -> L, T -> G. Application: To decode KOZMV, find the reverse of each letter: K -> P, O -> L, Z -> A, M -> N, V -> E.

100.A) ABOUT

Rule: Decoding. The original word is the reverse alphabet of the code. For UNDER, U -> F, N -> M, D -> W, E -> V, R -> I.

Application: To decode ZYLFG, find the reverse of each letter: Z -> A, Y -> B, L -> O, F -> U, G -> T.

101.A) YARD

Rule: Decoding. The original word is the reverse alphabet of the code. For FARM, F -> U, A -> Z, R -> I, M -> N.

Application: To decode BZIW, find the reverse of each letter: B -> Y, Z -> A, I -> R, W -> D.

102.A) DARK

Rule: Decoding. The original word is the reverse alphabet of the code. For NIGHT, N -> M, I -> R, G -> T, H -> S, T -> G.

Application: To decode WZIP, find the reverse of each letter: W -> D, Z -> A, I -> R, P -> K.

103.A) DREAM

Rule: Decoding. The original word is the reverse alphabet of the code. For SLEEP, S -> H, L -> O, E -> V, E -> V, P -> K.

Application: To decode WIVZN, find the reverse of each letter: W -> D, I -> R, V -> E, Z -> A, N -> M.

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104.C) CLIMB

Rule: Decoding. The code for LEARN is NCCPP, which follows a +2, -2, +2, -2, +2 pattern.

Application: To decode EJKKD, apply the inverse pattern (-2, +2, -2, +2, -2): E-2=C, J+2=L, K-2=I, K+2=M, D-2=B.

105.A) THERE

Rule: Decoding. The code for SHAVE is RFXRZ, which follows a -1, -2, -3, -4, -5 pattern.

Application: To decode SFBNZ, apply the inverse pattern (+1, +2, +3, +4, +5): S+1=T, F+2=H, B+3=E, N+4=R, Z+5=E.

106.B) JUMPER

Rule: Decoding. The code for WINNER is YJPOGS, which follows an alternating +2, +1 pattern.

Application: To decode LVOQGS, apply the inverse pattern (-2, -1): L-2=J, V-1=U, O-2=M, Q-1=P, G-2=E, S-1=R.

VR - SYNONYMS

- 107. C
- 108. A
- 109. B
- 110. C
- 111. D
- 112. B
- 113. C
- 114. B
- 115. A
- 116. B
- 117. B
- 118. C
- 119. C
- 120. A
- 121. C
- 122. B
- 123. C
- 124. B
- 125-skip

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Comprehension

Tradition

126. c

127. d

128. a

129. b

130. d

Newton

131. c

132. a

133. d

134. b

135. c

Prisoners and Captives

136. C) They loved watching trains.

137. D) 'a great garden-squirt'

138. D) Rain poured down where the passengers waited.

139. D) Advertisements.

140. C) Blue Black Writing Fluid.

141. B) The up train.

142. C) She made it for the engine-driver.

143. D) They suspected something had happened.

144. D) He was filled with exhilaration.

145. C) A medical or police case.

146. B) Surrounded by enemies.

147. B) Hospital.

148. A) A simile.

149. C) Metaphor.