St Olaves and Newstead Homework 30 Answer Key

ANSWER KEY

1 B
2 C
3 A
4 B
5 B
6 B
7 B
8 C
9 C
10 A, E
11 A, C
12 A, E

13. **Answer: £63**

Explanation:

After spending 2/7, Noah has 5/7 of his money left. He then spends 3/5 of the remainder, so he keeps 2/5 × 5/7 = 2/7 of the original amount. Since 2/7 = £18, the original amount is £18 × 7 ÷ 2 = £63.

14. **Answer: 120 oranges**

Explanation:

After selling 3/8, 5/8 of the oranges remain. Selling 45 more leaves 1/4 of the original amount. So, 5/8 − 1/4 = 3/8, meaning 3/8 = 45. Therefore, the original number is 45 × 8 ÷ 3 = 120.

15. **Answer: 180 counters**

Explanation:

Green counters = 1 − 1/3 − 2/5 = 4/15. Blue counters = 2/5 = 6/15, so Blue exceeds Green by 2/15. Since 2/15 = 24 counters, the total number of counters is 24 × 15 ÷ 2 = 180.

16. **Answer: 19/28**

Explanation:

There are 147 pigs and 49 ducks. Black-patched animals = 2/7 × 147 = 42 pigs and 3/7 × 49 = 21 ducks, making 63 altogether. Therefore, 196 − 63 = 133 animals have no black patches, giving 133/196 = 19/28.

17. **Answer: 60 cm**

Explanation:

Convert fractions:

2/7 = 4/14

Jake = 3/14

Total given = 7/14 = 1/2

Ruby also gets 1/2.

If 1/2 = 30 cm → whole ribbon = 60 cm.

18. **Answer: 13/32**

Explanation:

The shaded area consists of 4 squares in the first row, 2 in the second row, and 1/2 of another square. Total shaded area = 6½ = 13/2 squares. Out of 16 equal squares, the shaded fraction is 13/2 ÷ 16 = 13/32.

19. **Answer: 6**

Explanation:

The distance from −12 to 18 is 30. Find 3/5 of 30 = 18, then move 18 units from −12: −12 + 18 = 6.

20. **Correct Answer: C (11/28)**

Explanation:

Convert the fractions to decimals: 3/8 = 0.375 and 2/5 = 0.4. Only 11/28 ≈ 0.393 lies between these two values.

21. **Answer: £38.70**

Explanation:

Notebooks: 35 ÷ 5 = 7 packs, costing £28. Pens: 40 ÷ 8 = 5 packs, costing £15. Total = £43. Apply the 10% discount: £43 − £4.30 = £38.70.

22. **Answer: 72 bulbs**

Explanation:

Half of the tulips were planted, so 18 left means 36 tulips originally. Since 2/3 of the crocuses = 24, the original number was 24 × 3 ÷ 2 = 36. Total bulbs = 36 + 36 = 72.

23. **Answer: 3 hours**

Explanation:

The cyclists travel in opposite directions, so their combined speed is 18 + 22 = 40 km/h. Time = 120 ÷ 40 = 3 hours.

24. **Answer: £19**

Explanation:

The first 4 books cost 4 × £9 = £36. The total cost of 5 books is 5 × £11 = £55. Therefore, the fifth book costs £55 − £36 = £19.

25. **Answer: 48 m^2**

Explanation:

The outer dimensions are 15 m × 11 m, so the outer area is 165 m^2. The garden area is 13 m × 9 m = 117 m^2. Therefore, the path area is 165 − 117 = 48 m^2.

Q26 – Detailed Explanation

Words: FOOT, BALL, RAIN, COAT.
We may join any two words, in either order, into a single word (no space).

Known common English compound words:

- FOOT + BALL = FOOTBALL
- RAIN + COAT = RAINCOAT

Try other combinations:

- BALLFOOT, COATRAIN, RAINBALL, COATFOOT, etc. — none are standard English words used at 11+ level.
- We also avoid exotic or obscure words — exam boards expect "football" and "raincoat", not rare coinages.

So:

- Valid compound words: 2 (FOOTBALL, RAINCOAT).

Therefore the answer is **2** → option **C**.

No ambiguity now, because the question explicitly says "single new word (with no space)" and allows both orders, but only two combinations yield familiar words.

Q27 – Detailed Explanation

Sentence:
Mysterious owls watch ancient valleys below

We count vowels a, e, i, o, u. (We do **not** treat y as a vowel here.)

Count vowels in each word:

- Mysterious → letters: m y s t e r i o u s
  Vowels: e, i, o, u → 4 vowels.
- owls → o → 1 vowel.
- watch → a → 1 vowel.
- ancient → a, i, e → 3 vowels.
- valleys → a, e → 2 vowels (y is treated as consonant).
- below → e, o → 2 vowels.

Now order them in **descending** number of vowels; ties keep original order:

- 4 vowels: Mysterious
- 3 vowels: ancient
- 2 vowels (in original order): valleys, below
- 1 vowel (in original order): owls, watch

So the correct order is:

Mysterious ancient valleys below owls watch → option **A**.

No conflicting option has this precise vowel pattern with the correct tie-breaking.

Q28 – Detailed Explanation

Sentence:
The exhausted hikers climbed laboriously up the steep hillside.

We must identify the adverb – a word that describes a verb, usually telling how, when or where something is done.

Examine key words:

- exhausted – adjective (describes hikers).
- hikers – noun.
- climbed – verb.

- laboriously – describes *how* they climbed → adverb.
- steep – adjective (describes hillside).
- hillside – noun.

So the adverb is **laboriously** → option **C**.

No ambiguity: it clearly modifies "climbed".

Q29 – Detailed Explanation

Code sentences:

1. MOKI PEL GOSA → RAPID EMERALD TRAIN
2. PEL ZINA RETI → EMERALD TINY BOAT
3. MOKI LANO RETI → RAPID LONG BUS

We compare sentences to match repeated words.

- EMERALD appears in sentences 1 and 2.
  The foreign word in both 1 and 2 is PEL.
  So PEL = EMERALD.
- TINY appears only in sentence 2 → corresponds to ZINA.
- BOAT appears only in sentence 2 → corresponds to RETI.
- LONG appears only in sentence 3 → corresponds to LANO.
- TRAIN appears only in sentence 1 → corresponds to GOSA.
- RAPID appears in sentences 1 and 3.
  The foreign word in both 1 and 3 is MOKI.

Hence MOKI = RAPID → option **C**.

This is a pure logic matching problem; there's only one word that fits "RAPID" consistently.

Q30 – Detailed Explanation

Words and codes:

SEAT → 3214
LAST → 7134
REST → 8234

Each letter always has the same digit.

We must find the code for LEAST.

1. Compare SEAT and REST to find S, E, T:

SEAT: S E A T → 3 2 1 4
REST: R E S T → 8 2 3 4

From SEAT: S → 3, E → 2, A → 1, T → 4
From REST: R → 8, E → 2 (confirms), S → 3 (confirms), T → 4 (confirms)

2. Use LAST to find L:

LAST: L A S T → 7 1 3 4
We already know A → 1, S → 3, T → 4, so L must be 7.

3. Summary of mapping:

L → 7
E → 2
A → 1
S → 3
T → 4

4. Word LEAST: L E A S T → 7 2 1 3 4

So the code for LEAST is **72134** → option **A**.

There is exactly one consistent mapping across all the given words, so the answer is unique.

Q31 – Detailed Explanation

Options:

A. Evaporation
B. Condensation
C. Boiling
D. Freezing
E. Painting

Evaporation, condensation, boiling and freezing are all **changes of state** of a substance (commonly water):

- Evaporation: liquid → gas
- Condensation: gas → liquid
- Boiling: liquid → gas (rapidly)
- Freezing: liquid → solid

Painting is not a change of state; it is an everyday activity.

So the odd one out is **Painting** → option **E**.

Clear single classification difference.

Q32 – Detailed Explanation

We must move ONE letter from STONE to RING to make two new real words, without rearranging the letters inside each word.

Try moving each letter:

- Move S:
  STONE → remove S → TONE (real word).
  RING → add S at end → RINGS (real word).
  Both TONE and RINGS are valid.
- Move T: STONE → SONE (not a standard word); RING with T placed somewhere doesn't give a familiar word without rearranging (RTING, RITNG, RINTG, RINGT – none are correct).
- Move O: STONE → STNE or S T N E (no standard word); RING with O inserted gives ORING, RIONG, RINOG, RINGO – only "Ringo" is a name, but STNE is not valid.
- Move N: STONE → STOE (not a standard word); RING with N inserted again doesn't give a good pair.
- Move E: STONE → STON (no); RING + E gives RINGE, REING, RIENG, RINeg – not valid.

Only moving **S** yields two ordinary English words that a 10–12-year-old would know (TONE and RINGS).

So the answer is **S** → option **A**.

Q33 – Detailed Explanation

Groups:

(miserly ancient vast)
(modern stingy generous)

We seek the pair, one from each group, that are closest in meaning.

Definitions:

- miserly: very unwilling to spend money; mean/ungenerous.
- stingy: also very unwilling to spend money; mean/ungenerous.
- ancient: very old.
- modern: from the present or recent times.
- vast: very large in size.
- generous: willing to give or share more than expected.

Check pairs:

- miserly & stingy: very close synonyms (both "mean with money").
- ancient & modern: opposites.
- vast & generous: unrelated.
- ancient & generous: unrelated.

So the best match in meaning is **miserly, stingy** → option **D**.

Q34 – Detailed Explanation

Groups:

(dilapidated rapid scarce)
(sluggish crumbling abundant)

Definitions:

- dilapidated: in a very bad condition because of age or lack of care; falling apart.
- crumbling: breaking into pieces; also used for buildings in bad condition.
- rapid: very fast.
- sluggish: very slow or lacking energy.
- scarce: not enough; in short supply.
- abundant: plenty; more than enough.

Check potential synonym pairs:

- dilapidated & crumbling: both describe things (often buildings) that are falling apart → near-synonyms.
- rapid & sluggish: opposites.
- scarce & abundant: opposites.

So the closest pair in meaning is **dilapidated, crumbling** → option **C**.

Q35 – Detailed Explanation

Sentence:
Young foxes chase rabbits nightly

We list the words in alphabetical (dictionary) order by first letter:

Words (in lower case): young, foxes, chase, rabbits, nightly.

First letters:

- chase → c
- foxes → f
- nightly → n
- rabbits → r
- young → y

Alphabetical order of first letters: c, f, n, r, y.

So the dictionary order is:

chase foxes nightly rabbits young → option **A**.

No ties on the first letter, so we don't need to compare second letters.

NVR

36. D

37. B

38. A

39. C

40. C

41. A

42. D

43. E

44. D

45. A

46. D

47. C

48. D

49. B

50. A

51. C

52. B

53. E

54. D

55. C

56. B

57. C

58. A

59. D

60. D

61. B

62. E