

Name:

Exam Style Questions

Set Notation



Equipment needed: Pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 379



Answers and Video Solutions



1. $A = \{\text{odd numbers between 8 and 14}\}$



List the elements of set A

..... 9, 11, 13 (1)

2. $B = \{\text{square numbers between 10 and 50}\}$



List the elements of set B

..... 16, 25, 36, 49 (1)

3. $C = \{\text{multiples of 3 between 1 and 30}\}$



$D = \{\text{multiples of 4 between 1 and 30}\}$

List the members of both set C and set D

$C = \{3, 6, 9, (12), 15, 18, 21, (24), 27, 30\}$

$D = \{4, 8, (12), 16, 20, (24), 28\}$

..... 12, 24 (2)

4. Circle the best description of $C \cup D$



C but not D

D but not C

C and D

C or D or both

(1)

5. Circle the best description of $C \cap D$



C but not D

D but not C

C and D

C or D or both

(1)

6. Circle the best description of C'



C

D

not C

not D

(1)

7. $A = \{6, \check{7}, 8, \check{9}, 10\}$



$B = \{\check{7}, \check{9}, 11\}$

List the members of $A \cap B$

7, 9

.....
(2)

8. $C = \{1, 4, 9\}$



$D = \{2, 4, 6\}$

List the members of $C \cup D$

1, 2, 4, 6, 9

.....
(2)

9. $E = \{11, \check{12}, 13, \check{14}, 15, \check{16}, 17\}$



$F = \{\check{12}, \check{14}, \check{16}, 18\}$

Find the set $E \cap F$

$E \cap F = \{12, 14, 16\}$

{ 12, 14, 16 }

.....
(2)

10. $\xi = \{\cancel{20}, \checkmark 21, 22, \cancel{23}, \cancel{24}, \cancel{25}, \cancel{26}, 27\}$



$A = \{20, 23, 24, 25, 26\}$

Find A'

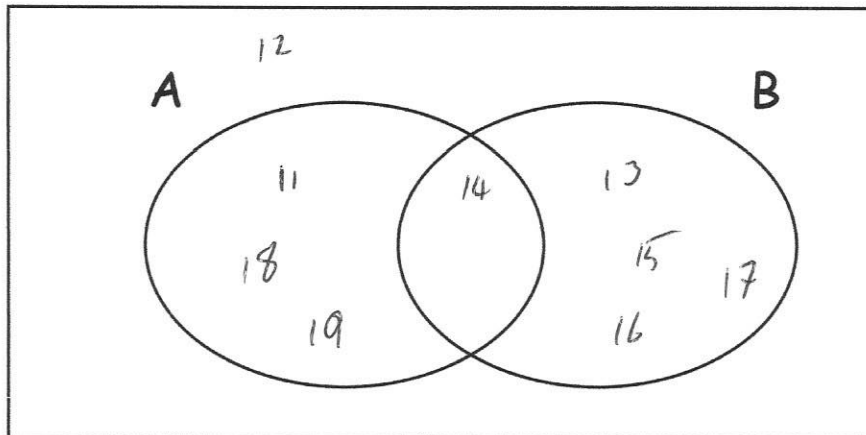
$A' = \{21, 22, 27\}$
(2)

11. $\xi = \{\checkmark 11, \checkmark 12, \checkmark 13, \checkmark 14, \checkmark 15, \checkmark 16, \checkmark 17, \checkmark 18, \checkmark 19\}$



$A = \{11, 14, 18, 19\}$

$B = \{13, 14, 15, 16, 17\}$



(a) Complete the Venn diagram to show all the elements.

(2)

An element from the universal set, ξ , is chosen at random.

(b) Find the probability that the element is a member of $A \cap B$

$\frac{1}{9}$

.....
(1)

12. $C = \{\text{cube numbers between 10 and 100}\} \quad 27, 64$



$S = \{\text{square numbers between 10 and 100}\} \quad 16, 25, 36, 49, 64, 81, 100$

(a) List the members of $C \cup S$

$16, 25, 27, 36, 49, 64, 81, 100$

(2)

(b) List the members of $C \cap S$

64

(2)

13. $\xi = \{\cancel{1}, \cancel{2}, \cancel{3}, \cancel{4}, 5, \cancel{6}, 7, 8, 9, 10, 11, \cancel{12}, 13, 14\}$



$A = \{1, 4, 9\}$

$B = \{1, 2, 3, 4, 6, 12\}$

(a) List the members of $A \cap B$

$1, 4$

(2)

(b) List the members of B'

$5, 7, 8, 9, 10, 11, 13, 14$

(2)

14. $A = \{\text{multiples of 3 between 20 and 40}\}$ 21 24 27 30 33 36 39



$B = \{\text{odd numbers between 20 and 30}\}$ 21 23 25 27 29

(a) List the members of $A \cup B$

21, 23, 24, 25, 27, 29, 30, 33, 36, 39

(2)

(b) List the members of $A \cap B$

21, 27

(2)

15. $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\}$



$C = \{1, 7, 10, 13\}$

$C' = \{2, 3, 4, 5, 6, 8, 9, 11, 12, 14\}$

$D = \{3, 5, 7, 9, 11, 13\}$

$D' = \{1, 2, 4, 6, 8, 10, 12, 14\}$

(a) List the members of $C' \cap D'$

2, 4, 6, 8, 12, 14

(2)

(b) List the members of $C \cup D'$

1, 2, 4, 6, 7, 8, 10, 12, 13, 14

(2)

16. $\xi = \{13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23\}$



$A = \{13, 17, 19, 21, 23\}$

$A' = \{14, 15, 16, 18, 20, 22\}$

$B = \{17, 18, 19, 20, 21, 22, 23\}$

$B' = \{13, 14, 15, 16\}$

(a) List the members of $A' \cup B'$

13, 14, 15, 16, 18, 20, 22
.....
(2)

(b) List the members of $A' \cap B'$

14, 15, 16
.....
(2)

(c) List the members of $A' \cap B$

18, 20, 22
.....
(2)

(d) List the members of $A \cup B'$

13, 14, 15, 16, 17, 19, 21, 23
.....
(2)