



Name: \_\_\_\_\_

Pre-assessment mark:

Pre-assessment level:

Question 1

ACMSP204 - Level 8

A coin is selected at random. What is the complement of selecting a \$1 coin?



selecting only a \$2 coin

selecting only a 50c coin

selecting only a 10c and 20c coin

selecting all coins except the \$1 coin

Question 2

ACMSP204 - Level 8

The probability of an event is 5 out of 9. What is the probability of the complement of this event?

Probability of the complement of the event =

—

Question 3

ACMSP205 - Level 8

Which of the following are mutually exclusive events for a standard pack of playing cards?



kings and aces

kings and hearts

aces and diamonds

queens and clubs



### Question 4

ACMSP205 - Level 8

A standard die is rolled. Which outcomes could be rolled for the probability of 'at least 4'?



5 or 6

4, 5 or 6

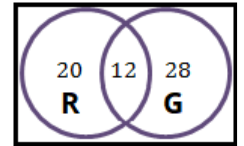
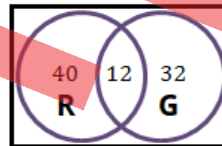
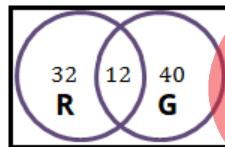
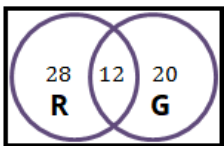
1 or 3

4 only

### Question 5

ACMSP292 - Level 8

A survey of 60 people is completed about their hobbies. Which is the matching Venn diagram, if 40 people like reading and 32 people like gardening?

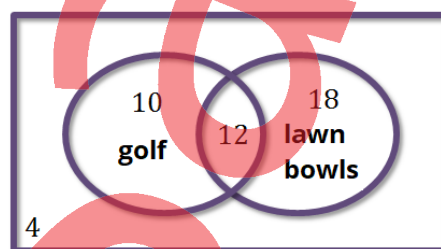


### Question 6

ACMSP292 - Level 8

Use the Venn diagram to complete the missing values in the two-way table.

**Golf and lawn bowls survey**



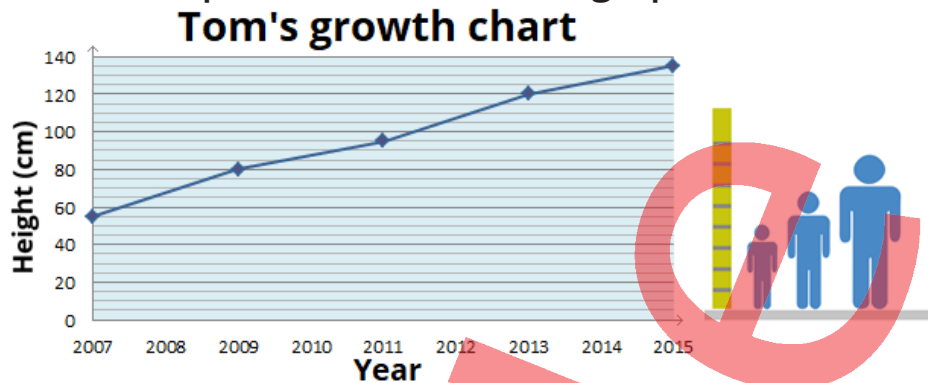
	golf	not golf
lawn bowls		18
not lawn bowls	10	



Question 7

ACMSP284 - Level 8

What can the variables represented in this line graph be classified as?



categorical

discrete

continuous

Question 8

ACMSP284 - Level 8

What would be the most appropriate form of data collection to explore current viewer ratings?



observation

sampling

census

Question 9

ACMSP206 - Level 8

A local council is investigating upgrading an existing road. It has two staff members conduct a traffic count. Has this data been collected from a primary or secondary source?



primary source

secondary source

not enough information



Question 10

ACMSP206 - Level 8

The Australian Government wants to gain some insight into the average wage of Australians. A survey of 20 000 people was conducted in each state and territory. Is the sample size large enough to be a good representation of the entire population?



yes

no

need more information

Question 11

ACMSP207 - Level 8

What is the mean of this set of data if the outlier is removed?

5, 11, 2, 5, 4, 26, 7, 8

5

6

8

9

Question 12

ACMSP207 - Level 8

How would the median change for this set of data, if the 10 was swapped for a 2?

7, 10, 12, 15, 18

decrease

stay the same

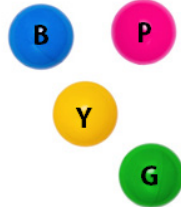
increase



Question 13

ACMSP225 - Level 9

One marble is randomly chosen. Its colour is recorded and it is returned to the set. Then a second marble is randomly chosen. What is the total number of outcomes for this chance experiment?



Question 14

ACMSP225 - Level 9

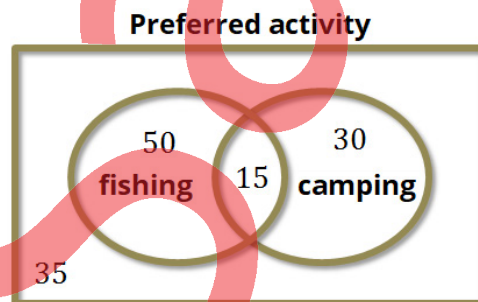
Jenny closes her eyes and takes one card from this hand. She notes the card and replaces it. She then repeats the process. What is the probability of Jenny selecting 1 diamond and then 1 spade?



Question 15

ACMSP226 - Level 9

A survey is completed to find the preferred activity of a group of people. Based on this data, how many people out of 195 would be expected to only prefer camping?



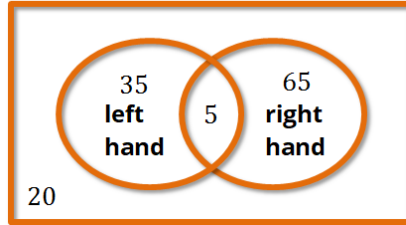


### Question 16

ACMSP226 - Level 9

What is the probability a person chosen at random can play cricket either left- or right-handed, but not both?

Holding a cricket bat



probability =

### Question 17

ACMSP228 - Level 9

The total monthly rainfall for Melbourne has been collected and recorded. How many months are above the average rainfall?

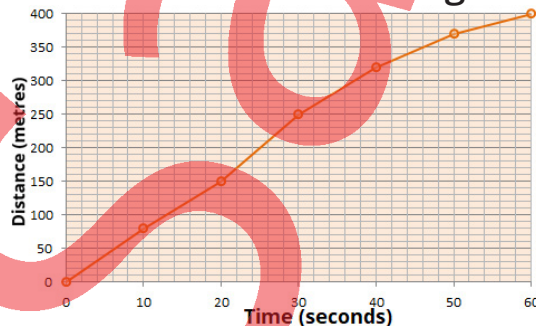
Monthly rainfall (mm)											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
43.5	60.3	45.2	35.6	55.7	64.4	78.5	50.7	70.3	50.2	33.1	23.4



### Question 18

ACMSP228 - Level 9

The journey of a runner has been graphed when competing in a 400-metre race. In which time period was the runner travelling the fastest?



30 - 40 seconds

20 - 30 seconds

0 - 10 seconds

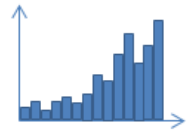
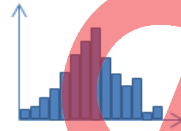
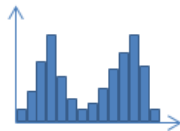
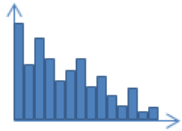
10 - 20 seconds



Question 19

ACMSP282 - Level 9

Which histogram has a symmetrical distribution?



Question 20

ACMSP282 - Level 9

A school's numeracy and literacy results are shown in this table. Which is the matching back-to-back stem-and-leaf-plot?

Numeracy (%)	Literacy (%)
48,50,52,56,58,60,63,72	37,38,39,42,44,47,53,57
74,74,75,76,83,83,88,89	59,63,68,78,78,85,86,89



Num (%)	Lit (%)
3	7 8 8
8	4 2 5 7
8 6 2 0	5 3 6 9
3 0	6 3 8
6 5 5 4 2	7 8 9
9 8 3 2	8 5 6 9

Num (%)	Lit (%)
7 8 9	3
2 4 7	4 8
3 7 9	5 8 6 2 0
3 8	6 3 0
8 8	7 6 5 4 4 2
5 6 9	8 9 8 3 3

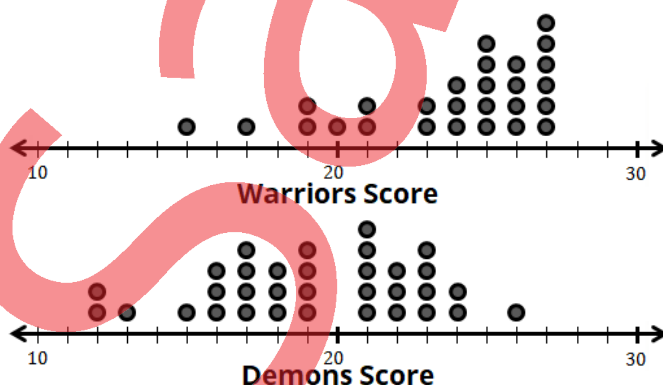
Num (%)	Lit (%)
3	7 8 9
8	4 2 4 7
8 6 2 0	5 3 7 9
3 0	6 3 8
6 5 4 4 2	7 8 8
9 8 3 3	8 5 6 9

Num (%)	Lit (%)
3	7 8 9
8 7	4 2 4 8
8 6 1 0	5 3 7 9
3 0	6 3 8
6 5 5 4 2	7 8 9
9 8 3 3	8 5 6 9

Question 21

ACMSP283 - Level 9

The scores of two rugby teams were recorded for the season and are shown below. What is the difference between the median scores for the two teams?





Question 22

ACMSP283 - Level 9

If the mean is 15 for the data, what is the value of the missing number?

14, 20, 16, , 9, 21, 7

Sample





### Teacher reference

\* 1 mark for each correct answer

Question	Sub-Strand	Australian Curriculum	Content Description
1	Chance	Level 8	Identify complementary events and use the sum of probabilities to solve problems (ACMSP204)
2	Chance	Level 8	Identify complementary events and use the sum of probabilities to solve problems (ACMSP204)
3	Chance	Level 8	Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'. (ACMSP205)
4	Chance	Level 8	Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'. (ACMSP205)
5	Chance	Level 8	Represent events in two-way tables and Venn diagrams and solve related problems (ACMSP292)
6	Chance	Level 8	Represent events in two-way tables and Venn diagrams and solve related problems (ACMSP292)
7	Data Representation & Interpretation	Level 8	Investigate techniques for collecting data, including census, sampling and observation (ACMSP284)
8	Data Representation & Interpretation	Level 8	Investigate techniques for collecting data, including census, sampling and observation (ACMSP284)
9	Data Representation & Interpretation	Level 8	Explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes (ACMSP206)
10	Data Representation & Interpretation	Level 8	Explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes (ACMSP206)
11	Data Representation & Interpretation	Level 8	Investigate the effect of individual data values, including outliers, on the mean and median (ACMSP207)
12	Data Representation & Interpretation	Level 8	Investigate the effect of individual data values, including outliers, on the mean and median (ACMSP207)
13	Chance	Level 9	List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events (ACMSP225)
14	Chance	Level 9	List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events (ACMSP225)
15	Chance	Level 9	Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' (ACMSP226)



\* 1 mark for each correct answer

Question	Sub-Strand	Australian Curriculum	Content Description
16	Chance	Level 9	Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' (ACMSP226)
17	Data Representation & Interpretation	Level 9	Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources (ACMSP228)
18	Data Representation & Interpretation	Level 9	Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources (ACMSP228)
19	Data Representation & Interpretation	Level 9	Construct back-to-back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal' (ACMSP282)
20	Data Representation & Interpretation	Level 9	Construct back-to-back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal' (ACMSP282)
21	Data Representation & Interpretation	Level 9	Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread (ACMSP283)
22	Data Representation & Interpretation	Level 9	Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread (ACMSP283)

Sample

Input your student assessment results within your Essential Assessment account to generate differentiated:

ID: 214

Curriculum data views

Paper-based Numeracy Learning Plans

My Numeracy activities