

Course 2 Accelerated

Summer Work

Show all your thinking (work) this included thinking for multiple choice problems.

Assessment Guide

Cumulative Review 2

50

Suggested Time:
45 min

Section A Multiple-Choice Questions

(10 × 2 = 20 points)

- 1 Mr. Jones has 25 roses and 37 lilies. What is the ratio of the number of roses to the total number of flowers Mr. Jones has?
- (A) 25 : 37
(B) 25 : 62
(C) 37 : 25
(D) 37 : 62
- 2 Which pairs of ratios are **not** equivalent to 18 : 54?
Choose **all** that apply.
- (A) 1 : 3
(B) 1 : 6
(C) 36 : 108
(D) 63 : 189
(E) 108 : 304
- 3 What is $49\frac{5}{8}\%$ expressed as a fraction in simplest form?
- (A) $\frac{5}{8}$
(B) $\frac{49}{100}$
(C) $\frac{327}{600}$
(D) $\frac{397}{800}$

- 4 What is 71% of \$2,890?
- (A) \$2,051.90
 - (B) \$1,991.90
 - (C) \$1,491.90
 - (D) \$491.30
- 5 A machine can seal 140 bottles per minute. At this rate, how many bottles can it seal in 15 minutes?
- (A) 1,550
 - (B) 1,900
 - (C) 2,100
 - (D) 3,190
- 6 An eagle can fly at a speed of 128 kilometers per hour. What is the distance in kilometers that it can fly in 1 hour 45 minutes?
- (A) 256
 - (B) 224
 - (C) 185.6
 - (D) 96
- 7 Emma, Taylor, and Bryony collected a number of hair clips in the ratio 5 : 9 : 6. If Emma and Taylor collected 350 hair clips in all, how many hair clips did Bryony collect?
- (A) 25
 - (B) 125
 - (C) 150
 - (D) 225

- 8 The table shows the postal charges for sending parcels to Country X.

First 4 Ounces	\$2.66
Per Additional 1 Ounce	\$1.30

How much does it cost to send a parcel weighing 10 ounces to Country X?

- (A) \$3.96
(B) \$6.62
(C) \$7.92
(D) \$10.46
- 9 A motorist left Town P at 12:30 P.M. and reached Town Q at 5:00 P.M. The motorist traveled at an average speed of 76 kilometers per hour. What was the distance in kilometers between Town P and Town Q?
- (A) 418
(B) 342
(C) 272
(D) 266
- 10 There were 42 girls and 78 boys in a sports club. What percent of the members were boys?
- (A) 65%
(B) 55%
(C) 54%
(D) 35%

Section B Short Answer Questions

(11 to 16 Part A, 16 Part B,
17 Part A, 17 Part B,
18: 2 points each)

- 11 The ratio of the number of birds to the number of hamsters in a pet store is 15 : 48. What fraction of the pets in the store is birds?

Write your answer in simplest form in the space below.

- 12 Name two ratios that are equivalent to 10 : 35.

Explain how you worked out the answers in the space below.

- 13 Express each fraction or mixed number as a percent.

Write each answer in the table.

Fraction or Mixed Number	Percent
$2\frac{3}{5}$	
$\frac{9}{8}$	
$\frac{35}{200}$	
$\frac{7}{560}$	

- 14 The table shows the sale prices of three brands of cereal.

Brand	Mass of Cereal	Sale Price
X	33 oz	\$5.61
Y	11.6 oz	\$3.48
Z	18.5 oz	\$4.81

Which brand of cereal costs the most per ounce?

Explain how you worked out the answer in the space below.

- 15 23% of a number is 138. What is the number?

Write your answer in the answer grid.

−					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

- 16 This question has two parts.

Jason cycles from his home to a park at a speed of 3 meters per second. The distance between his home and the park is 1,062 meters.

Part A

How many seconds does he take to cycle from his home to the park?

Write your answer in the answer grid.

-					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Part B

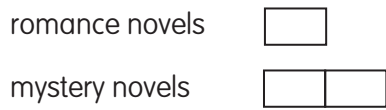
If Jason wants to take 33 fewer seconds to reach the park, at what speed in meters per second must he cycle? Round your answer to 2 decimal places.

Write your answer in the answer grid.

-					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

- 17 This question has two parts.

The bar model shows the ratio of the number of romance novels to the number of mystery novels.



There are 78 romance and mystery novels in all.

Part A

How many novels does each unit in the bar model represent?

Explain your answer in the space below.

Part B

The ratio of the number of mystery novels to the number of fantasy novels is 1 : 3.

- How many units should be drawn to represent the number of fantasy novels?
- How many fantasy novels are there?

Write your answers in the space below.

- 18 Cole donated \$40.80 to charity, spent \$128, and had \$35.20 left. What percent of his money did he donate to charity?

Write your answer in the answer grid.

—					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Section C Constructed Response

(19): 3 points; (20): 3 points; (21): 4 points)

- 19 This question has two parts.

Today the ratio of Lily's age to Kyle's age is 4 : 11. After 20 years, the ratio will become 9 : 16.

Part A

How old is Kyle today?

Write your answer and your work or explanation in the space below.

Part B

Find the ratio of Lily's age to Kyle's age after 30 years.

Write the ratio in simplest form in the space below.

20 Leah and Daniel went to pick some fruit in a farm. 30% of the fruit that Leah picked were strawberries. 55% of the fruit that Daniel picked were strawberries. Eric thinks that Daniel picked more strawberries than Leah.

- Explain the error in Eric's thinking.
- Give one example to support your reasoning.
- Give one situation when Eric's thinking would be true.

Write your explanation and answers in the space below.

- 21 This question has two parts.

A car traveled from City X to City Y at an average speed of 90 kilometers per hour. It then traveled back to City X using the same route at an average speed of 75 kilometers per hour. The car took a total of 16.5 hours to travel between two cities.

Part A

If the car left City Y at 8 A.M, what time would it reach City X?

Write your answer and your work or explanation in the space below.

Part B

What is the distance in kilometers between City X and City Y?

Write your answer in the answer grid.

-					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Assessment Guide

Cumulative Review 3

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Suggested Time:

45 min

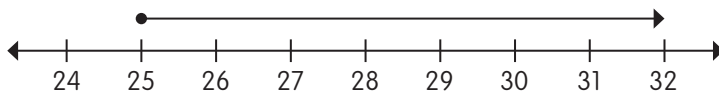
Section A Multiple-Choice Questions

(10 × 2 = 20 points)

- 1 A file costs $5k$ dollars and a notebook costs $\frac{1}{6}$ of the file. Which expression shows the cost of the notebook in dollars?
- (A) $5k - 6$
- (B) $5k + 6$
- (C) $5k \div 6$
- (D) $5k \times 6$
- 2 What is the value of $\frac{9x-2}{4} + 2(3 + 7x)$ when $x = 4$?
- (A) 71
- (B) $70\frac{1}{2}$
- (C) $36\frac{1}{2}$
- (D) $30\frac{3}{4}$
- 3 Which pairs of expressions are **not** equivalent?
Choose **all** that apply.
- (A) $p + p + p + p$ and $p + 4$
- (B) $2q + 13 + 5q - 10$ and $7q + 3$
- (C) $\frac{32r}{4}$ and $\frac{20r}{2}$
- (D) $11s$ and $4s + s + 6s$
- (E) $15u - 9u$ and $\frac{54u}{9}$

- 4 Factor the expression $18m + 27 - 6m - 11$.
- (A) $9(2m + 3)$
 - (B) $8(3m + 2)$
 - (C) $6(2m + 1)$
 - (D) $4(3m + 4)$
- 5 Which is the solution of the equation $\frac{3}{5}h = \frac{7}{10}$?
- (A) $h = 2\frac{1}{3}$
 - (B) $h = 1\frac{1}{6}$
 - (C) $h = \frac{21}{50}$
 - (D) $h = \frac{1}{10}$
- 6 The length of a rectangle is four times its width, w inches. The perimeter of the rectangle is p inches. Which equation describes the relationship between w and p ?
- (A) $p = 5w$
 - (B) $p = 8w$
 - (C) $p = 10w$
 - (D) $p = 12w$

- 7 Which inequality represents the number line shown?



- (A) $x \geq 25$
(B) $x > 25$
(C) $x \leq 25$
(D) $x < 25$
- 8 Ms. Lee bought g peaches at 80 cents each and $(g + 5)$ mangoes at 60 cents each. What is the total amount of money, in cents, that Ms. Lee spent?
- (A) $140g + 400$
(B) $140g + 300$
(C) $80g + 400$
(D) $60g + 300$
- 9 Alex painted x chairs on Monday and 6 more chairs on Tuesday. He painted a total of 109 chairs in two days. Which equation represents this situation?
- (A) $x + 6 = 109$
(B) $x - 6 = 109$
(C) $2x + 6 = 109$
(D) $2x - 6 = 109$
- 10 A machine can seal fewer than 80 bottles per minute. Which inequality represents this situation?
- (A) $x < 80$
(B) $x > 80$
(C) $x \leq 80$
(D) $x \geq 80$

Section B Short Answer Questions

(11 to 17) Part A, (17) Part B,
(18 and 19): 2 points each)

- 11 6 pencils cost y dollars. A pen costs 75 cents more than a pencil.
Find an algebraic expression that represents the cost of the pen in dollars.

Write your answer in the space below.

- 12 Evaluate $14 - \frac{4w+3}{5} + \frac{w}{8}$ when $w = 10$.

Write your answer as a mixed number in simplest form in the space below.

- 13 Expand and simplify $\frac{2}{3}(21z + 15) + 4(3 - 2z)$.

Write your answer in the space below.

- 14 Explain whether $g = 1\frac{2}{3}$ is the solution of the equation $g - \frac{2}{3} = 2\frac{1}{3}$.
If $g = 1\frac{2}{3}$ is not the solution, what is the correct solution?

Show your explanation and write your answer in the space below.

15 Jaden is comparing the two equations shown.

$$8x = 72 \qquad x - 3 = 6$$

He claims that the two equations are equivalent because they have the same solution.
Do you agree?

Explain your answer in the space below.

- 16
- Draw a number line to represent the solutions of the inequality $p \geq \frac{27}{8}$.
 - Give three integer solutions of the inequality.

Show your drawing and write your answers in the space below.

- 17 This question has two parts.

Liam wrapped h small boxes using 2 meters of wrapping paper for each box. He also wrapped $(h + 11)$ big boxes using 6 meters of wrapping paper for each box.

Part A

Find an algebraic expression for the total amount of wrapping paper Liam used.

Write your answer in the space below.

Part B

How much more wrapping paper did he use to wrap the big boxes than the small boxes if $h = 25$?

Write your answer and your work or explanation in the space below.

- 18 Ryan thinks of a number. When he multiplies the number by 14, he will get the same result as $\frac{7}{12}$ of 816. What is the number that Ryan thought of?

Write your answer and your work or explanation in the space below.

- 19 Alan bought 7 boxes of beads. Each box contains 80 beads and fewer than 45% of the beads in each box have patterns on them. What is the greatest possible number of beads that have patterns on them in all the 7 boxes?

Write your answer and your work or explanation in the space below.

Section C Constructed Response

(20): 4 points; (21): 3 points; (22): 3 points)

20 This question has two parts.

A bookshelf weighs $6w$ pounds more than a chair. 5 bookshelves and 9 chairs weigh $(72w + 35)$ pounds in all.

Part A

Find the weight of the chair in terms of w .

Write your answer and your work or explanation in the space below.

Part B

Find the total weight of 2 bookshelves and 5 chairs if $w = 4$.

Write your answer and your work or explanation in the space below.

21 This question has three parts.

Each figure in the pattern consists of some squares and circles.

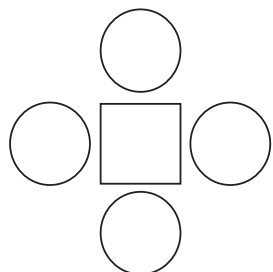


Figure 1

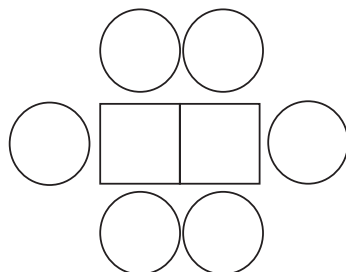


Figure 2

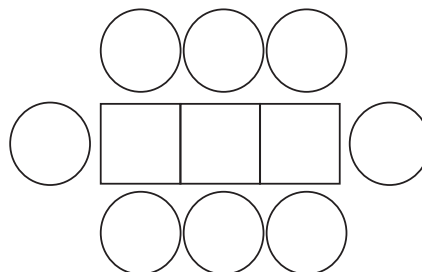


Figure 3

Part A

Find the number of circles in Figure 5.

Write your answer and explanation in the space below.

Part B

There are x squares and y circles in Figure n .

Write an equation that relates x and y in the space below.

Part C

Find the number of circles in Figure 50.

Write your answer and your work or explanation in the space below.

22 This question has two parts.

A rectangular field has a length of 35 yards and a width of t yards. The width of the field is at least 30% shorter than its length.

Part A

Find an inequality to represent this situation.

Write your answer in the space below.

Part B

Suppose t is a whole number.

- What is the greatest possible perimeter of the field?
- What is the greatest possible area of the field?

Write your answers and your work or explanations in the space below.