

10.10 Fully Mixed Cumulative Review

Chapter 10: Final Cumulative Review

Name: _____

Date: _____

Class/Period: _____

10.371 Directions:

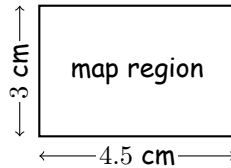
Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A recipe for 8 servings uses $2\frac{1}{4}$ cups of flour at \$0.72 per cup. Find the flour cost for 20 servings.

10.372 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A map uses the scale 1 cm : 12 km. A rectangular region measures 4.5 cm by 3 cm on the map. Find its actual area.



10.373 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A \$180 item is discounted by 25%, then the sale price is shared equally by 6 people. Find each person's share before tax.

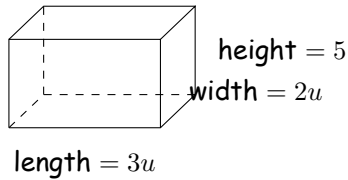
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10.374 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A rectangular prism has length-to-width ratio $3 : 2$, height 5, and volume 1080. Find its length and width.



10.375 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Five scores have mean 84. Four of the scores are in the ratio $7 : 8 : 9 : 10$ and have total 272. Find the fifth score.

10.376 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A car travels 60% of a 420-mile trip at 70 mph and the remainder at 56 mph. Find the total travel time.

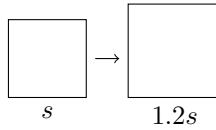
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10.377 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

The side length of a square increases from s to $1.2s$. Use the power $(1.2)^2$ to find the area scale factor, then find the percent increase in area.



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10.378 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A line plot has frequencies in the ratio 1 : 2 : 3 : 2 : 1 at five consecutive integers centered at 8. The smallest frequency is 4. Find the mean, median, and total number of observations.

Value	6	7	8	9	10
Relative frequency	1	2	3	2	1

10.379 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A number is decreased by one-fourth of itself. Then 30% of the result is 45. Find the original number.

10.380 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Compare the unit prices of 2.5 kg for \$18.75 and 4 kg for \$28.40. Then find the percent savings per kilogram for the better buy.

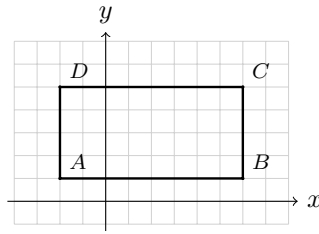
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10.381 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A rectangle has vertices $(-2, 1)$, $(6, 1)$, $(6, 5)$, and $(-2, 5)$. It is enlarged by a scale factor of $\frac{3}{2}$. Find the new area.



10.382 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A class of 50 students has a boys-to-girls ratio of 2 : 3. If 80% of the girls and 75% of the boys submit their work, how many students submit it?

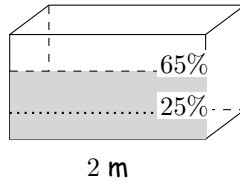
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10.383 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A tank measures 2 m by 1.5 m by 1.2 m. It drains at 0.18 m^3 per minute from 65% full to 25% full. Find the draining time.



10.384 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A data set has mean 18. Every value is multiplied by $\frac{3}{2}$ and then decreased by 4. Find the new mean.

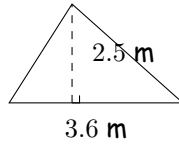
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10.385 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A triangular piece of fabric has base 3.6 m and perpendicular height 2.5 m. Fabric costs \$8.40 per square meter, and 12% extra is purchased for waste. Find the cost.



10.386 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

One worker completes $\frac{3}{8}$ of a job in 6 hours; another completes 30% in 5 hours. Compare their unit rates.

10.387 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Notebooks come 24 per box at \$31.20 per box. A school needs at least 350 notebooks and receives a 15% discount. Find the total cost.

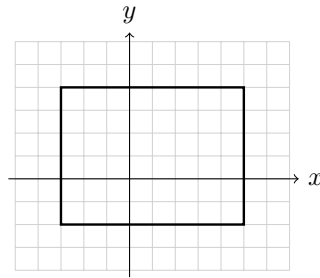
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10.388 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A rectangle has vertices $(-3, -2)$, $(5, -2)$, $(5, 4)$, and $(-3, 4)$. A similar rectangle has perimeter 14. Find its area.



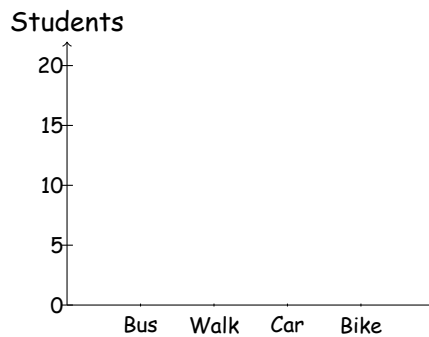
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10.389 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Transportation counts are in the ratio 3 : 4 : 2 : 1 for 40 students. Find the counts and draw a bar graph.



10.390 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A price grows by 10% each year for two years and becomes \$726. Let P be the original price. Write the equation

$$P(1.10)^2 = 726,$$

expand the power as two equal growth factors, and find P .

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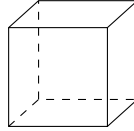
10.391 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A cube has surface area 216 square units. Use

$$6s^2 = 216$$

to find its side length s , then use $V = s^3$ to find its volume.



side s

10.392 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A mixture has flour-to-sugar ratio 5 : 2. After 3 cups of sugar are added, the ratio becomes 5 : 3. Find the original amounts.

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10.393 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A box plot has $Q_1 = 20$, median 30, and $Q_3 = 42$. Every data value increases by 15%. Find the new quartiles and IQR.

Statistic	Q_1	Median	Q_3	IQR
Original	20	30	42	$42 - 20$
After increase				

10.394 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

For a fixed distance, speed decreases by 20%. The original travel time is 4 hours. Find the new time and explain why it is not a 20% increase.

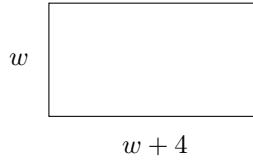
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10.395 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A rectangle has area 140 square units. Its length is 4 units more than its width. Write and solve an equation for the dimensions.



10.396 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A sales data set has mean \$2,400 and MAD \$180. The values are reported in hundreds of dollars. Find the transformed mean and MAD.

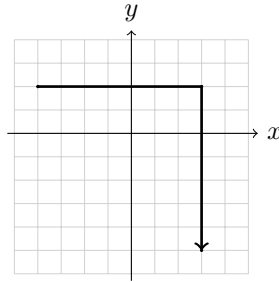
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10.397 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A route goes from $(-4, 2)$ to $(3, 2)$ and then to $(3, -5)$. Find the total distance in coordinate units and the average speed in coordinate units per hour if the trip takes 0.35 hour.



10.398 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

For

$$n = 2^3 \cdot 3^2 \cdot 5,$$

use the exponents to determine the total number of positive factors of n . Then find what percent of those factors are multiples of 10, and explain how the allowable prime exponents organize your count.

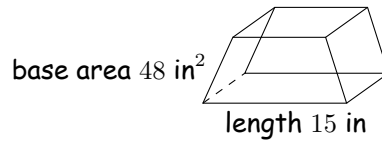
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10.399 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A trapezoidal prism has base area 48 in^2 and length 15 in. Find the volume.



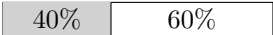
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10.400 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A percent bar and a proportional table describe the same relationship. Fill in the missing value and explain.



	First case	Second case
Whole	80	140
Part	32	?