REVIEW QUESTIONS #6

① Which of the following is the simplified version of this expression?

		4(7x+5) - 2(3x-6)	$+2^2+6^2\div 8$
A)	22 <i>x</i> +25.5	C)	22 <i>x</i> +22.5
B)	22x + 40.5	D)	22x + 16.5

② What is the total surface area of the following decomposable solid?



A)	144 m ²	C)	96 m ²
B)	112 m ²	D)	64 m ²

③ Which of the following shows a direct proportional situation for graph, table and rule?



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④ The following are the heights of all the students in Mr. Math's history class.

140	155	180	164	137	175	167	143	158	179
165	176	168	149	135	154	180	146	135	170

Which of the following is false?

- A) The mean of this distribution is 161 cm.
- B) The range of this distribution is 45 cm.
- C) The minimum of this distribution is 135 cm.
- D) The maximum of this distribution is 180 cm.
- © Solve the following algebraic equation (round to the nearest hundredth):

$$\frac{-7(4x-9)}{5} = \frac{8(6x+2)}{3}$$

© Place the following rates in order from slowest to fastest:

a) 0.018 km/s b) 1020 m/min c) 15 m/s d) 57.6 km/h

⊘ Construct a regular octagon with side lengths measuring 3 cm.

The lunch menu at a sandwich shop consists of a combination of options. There are 4 sandwiches (chicken, meatball, ham, and turkey) and 3 drink options (soda, milk and juice) to choose from.

Create a tree diagram to and list all the possible lunch combinations.

TEACHERS IN JEOPARDY

Marc is planning the very popular *Teachers in Jeopardy* games. Students can select from two games: the *Dunk Tank* and the *Pie Toss*. Due to high interest in the games, students are only allowed to choose one.

Game Descriptions

Dunk Tank:

Soak your teacher in ice cold water if the spinner lands on a prime number.



Pie Toss:

Toss a pie if a token, chosen at random, has a higher value than the average (mean) of all ten tokens.



Marc thinks that the Dunk Tank has the (highest probability of winning)? Is he correct?

① CATERING EXPENSES

Student Council is hiring a catering company to provide food for the end of year celebration. The catering company expenses are:

- The rental of equipment is \$150
- The catering company charges a rate of \$120/hour

The Student Council's budget for food is \$750.

You must create a table of values, graph the situation and write the rule.

Due to budget restrictions, what is the maximum number of hours the catering company can be hired for?

A. Graph the situation

B. Write the rule to solve the equation: _____

C. The catering company can be hired for a maximum of _____ hours.

DO FLOATING DUCKS

Sandra is planning the "Floating Ducks" game booth. She found instructions to create a 3 m^2 rectangular pond which holds 75 rubber ducks. Unfortunately, she only has enough material to build a similar 20 000 cm² rectangular pond.

Rectangular pond from instructions

Area = 3 m^2

Holds 75 ducks



Sandra's Rectangular pond

Holds ? ducks



Diagrams are not drawn to scale



In keeping with proportionality requirements, how many ducks are needed to fill Sandra's rectangular pond?

O② TRIANGLE PROJECTION

A triangle is projected on a game board screen. The triangle has a base of 3 cm and a height of 2 cm.

Liane says that if a dilatation scale factor of 5 is applied to the initial triangle, the area of the triangle projected on the screen will be 5 times greater.

Is she right or wrong?



13 STAGE DECORATIONS

The band, *Limits to Infinity*, requests two cylindrical towers as stage decorations. Both cylindrical towers have the same total surface area but different heights.

- Total surface of each tower is 120 m².
- The area of the base of the cylindrical tower A is 16.6 m^2 .
- The radius of cylindrical tower B is 3 less than triple the radius of cylindrical tower A.



Diagrams are not drawn to scale

What is the height of each cylindrical tower?

Cylindrical tower В



Tower B

Total surface area = 120 m^2