

REVIEW QUESTIONS #5

❶ Rick's mother asks him to do the dishes. He tells her that he really doesn't want to. His mother proposes the following deal.

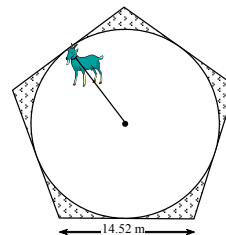
"Here are 4 aces and 2 jokers from a deck of cards. I will turn them over, and mix them. You will pick 2 cards.

If your cards are NOT a pair of aces, then you **HAVE TO do the dishes.**"

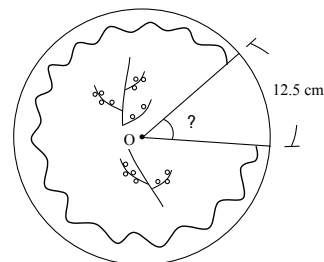


If Rick accepts this deal, what is the probability that he **WILL** do the dishes?

❷ Sally the goat is kept in a fenced-off area, shaped like a regular pentagon with side lengths of 14.52 m. Sally is tied at the center of the area with a 10 m rope. The length of her rope lets her touch the midpoint of each side of the pentagon. She eats the grass that she can reach, as shown in the diagram at the right. What is the area of the part of the pentagon that Sally cannot reach?



❸ Steve buys a blueberry pie with a circumference of 90 cm. He gives Julie a piece of the pie with an edge of crust that is 12.5 cm long. What is the area of Julie's piece of pie?



④ Simplify the following algebraic expressions:

a) $2(x+2) + 3x - 5$

b) $\frac{3x-3}{3} - x$

Solve the following equations:

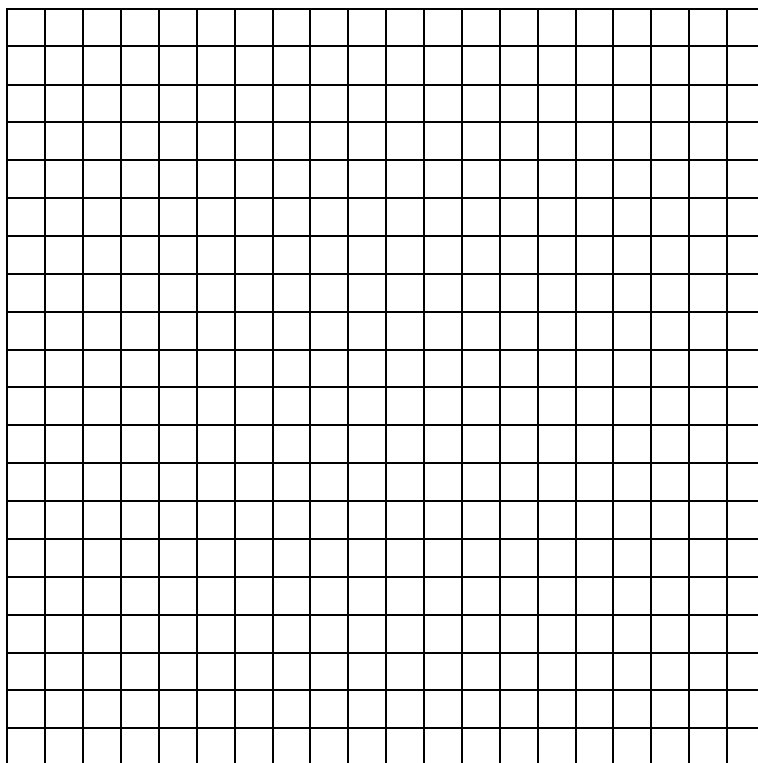
c) $3x + 4 - 7x = 3$

d) $5x + 8 = -2x - 13$

⑤ A water tower has 5000 L of water in it. It begins to fill with more water at a regular rate of 1500 L per hour. The table below shows the volume of water in the tower at different times. Complete the following table of values. Graph this situation. Label your graph

Volume of Water in Tower

Number of hours (n)	0	2	4	7		n
Volume of water (L)	5 000		11 000		20 000	



⑥ Betsy purchased some new soccer equipment on sale at 40% off regular price. The bill of sale below shows her purchases. Complete the bill of sale for her purchases.

Sport Discount Store			
Quantity	Item	Cost per item	Total Cost
2	Pairs of soccer shoes	\$39.95	
1	Soccer ball	\$35.25	
3	Pairs of soccer socks	\$6.00	
1	Pair of shin pads	\$15.75	
2	Pairs of shorts	\$12.25	
Regular Cost of Items			
Amount of 40 % discount			
Subtotal after 40 % Discount			
GST 5%			
PST 9.975%			
Total Cost of Purchase			

⑦ The sum of the ages, in years, of three family members is 74. The father is 5 times as old is the child. The mother is 3 years younger than the father. How old is each member of this family?

⑧ On his last mathematics test, Xavier got 7 questions wrong out of 40. Each question was worth the same number of points. What mark (in %) did Xavier get on this test?

⑨ There are 375 girls in a neighbourhood high school. There are 625 students in the school. What is the ratio of girls to boys in the school? Reduce your answer.

- ⑩ Using your geometry instruments, construct the image of trapezoid ABCD under a dilation with center O and a scale factor of $\frac{3}{5}$.

