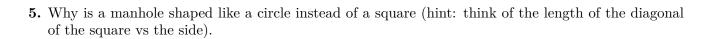## MATH 5: HANDOUT 28
REVIEW PROBLEMS

1. (a) A pole casts a shadow of 21 feet. If a six foot woman is standing beside the pole cases a shadow
       of 4.5. How high is the pole?
    (b) How many sheep jump over a fence in an hour if 10 sheep jump over in 10 minutes.

2. A clothing salesman was trying to dispose of a shirt made in last year's style. The original price was
    $ 30, and he cut it to $24, but it did not sell. He reduced the price further to $19.20 but still no
    luck. It sold upon the next deduction, which followed consistently with those previous. What was
    the price?

3. Arrange the digits 1, 2, …, 9 in a square so that every row, column and diagonal sum to the same
    amount.

4. Two identical packs of cards, A and B, are shuffled. One card is is drawn from pack A and shuffled
    with pack B. The top card of pack A is turned up and is the queen of hearts. What are the chances
    that the top card of pack B will be the king of hearts? (hint: what do you learn from the flipped
    card being queen?).

5. Why is a manhole shaped like a circle instead of a square (hint: think of the length of the diagonal of the square vs the side).

6. Can you place six identical unsharpened pencils down on the table so that each pencil touches all the others?

7. Draw 4 straight lines to cross out every dot . You cannot cross any dot more than once. You must do this without lifting your pencil from the page, or retracing any line.

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•   •   •   •

•   •   •   •

•   •   •   •

•   •   •   •
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8. Find numerical values for the letters so that

$$
\begin{array}{r}
\text{ONE} \\
+\ \text{TWO} \\
+\ \text{FOUR} \\
\hline
\text{SEVEN}
\end{array}
$$

such that

$$5 \times \text{WOES} = \text{SORER}$$