1.1 Find the value of c that makes the trinomial a perfect square
$x^2 + 9x + c$.

1.2 Solve: $14v - 3(6 - v) = 8(v - 9)$.

1.3 If the probability of an event is $\dfrac{x}{10}$ and the odds in favor of the

event are $\dfrac{3}{4}$, find x.

1.4 Simplify: $-8\left[\left(\dfrac{1}{4}\right) + \left(-\dfrac{1}{8}\right)(-24)\right]$

1.5 Given $f(x) = x - x^3$, find $f(-3)$.

2.1 What is the units digit of 14^{246} ?

2.2 Simplify: $-5\left[(2 - 6) - (3 + 7)\right] - 2^2$

2.3 Matthew invested in bonds at 8% annual interest and $3000 less in stocks that
yielded 6% annual interest. His total interest for the year was $1010.
How much did he invest in bonds?

2.4 Simplify: $\dfrac{x^0}{x^{-17}}$

2.5 Factor completely: $3ar - 6yr + 9am - 18ym$

3.1 Simplify: $\dfrac{1}{3}(6x - 9) + 4(3x + 2)$

3.2 Solve. $-20 \le 4c - (c - 1)$

3.3 Greta bought a pair of shoes for $67.50. This price included an 8% sales tax.
What did the shoes cost without tax?

3.4 What is the opposite of the reciprocal of the multiplicative inverse of the
additive inverse of 5?

3.5 Simplify and write in scientific notation: $\dfrac{\left(3 \times 10^3\right)\left(8 \times 10^4\right)}{2 \times 10^5}$.

4.1 Find the equation in slope-intercept form of the line parallel to the graph of $2x - 3y = 7$ and which has the same y-intercept as the graph of $5x + 2y = 1$?

4.2 Simplify: $\left(\dfrac{2}{3}h^3\right)^4$

4.3 Solve: $\sqrt{12x^2 - 75} = 3x$

4.4 A square gate is reinforced by a wooden brace across its diagonal. The perimeter of the gate is 12 ft. What is the length of the brace?

4.5 Simplify: $6 + \dfrac{1}{1 + \dfrac{1}{3 + \dfrac{1}{3}}}$

EX1 Find the number three-fourths of the way from $\dfrac{1}{2}$ to $\dfrac{8}{9}$.

EX2 In how many different ways can a 10-question true-false test be answered if every question must be answered?

EX3 Solve: $\dfrac{5x - 2}{5} = \dfrac{-8x}{15}$.