Quiz 2

Name: | **Perm Number:**

1) Simplify the expression below and write it as a percent.

$$\frac{1}{20}\left(12^{-1}+18^{-1}\right)^{-1}$$

$= \frac{1}{20}\left(\frac{1}{12}+\frac{1}{18}\right)^{-1} = \frac{1}{20}\left(\frac{3}{36}+\frac{2}{36}\right)^{-1} = \frac{1}{20}\left(\frac{36}{5}\right)$

$= \frac{36}{100} = 36\%$

36%

2) Multiply out and simplify. writing the simplified answer in the box.

$$(x-1)(x^3+x^2+x+1)$$

$= x(x^3+x^2+x+1)$
$\quad -1(x^3+x^2+x+1)$

$= x^4 + \cancel{x^3} + \cancel{x^2} + \cancel{x}$
$\quad -\cancel{x^3} - \cancel{x^2} - \cancel{x} - 1$

$= x^4 - 1$

$x^4 - 1$

3) Multiply out and simplify. writing the simplified answer in the box.

$$\left(\frac{5a-3ab}{2a}\right)\left(\frac{14a-28b}{7}\right)$$

$$= \frac{a(5-3b)}{2a} \cdot \frac{7(2a-4b)}{7} = \frac{(5-3b)\cdot 2(a-2b)}{2}$$

$$= (5-3b)(a-2b) = 5(a-2b) - 3b(a-2b)$$

$$= 5a - 10b - 3ab + 6b^2$$

$5a-10b-3ab+6b^2$

4) A bad guy leaves Isla Vista at midnight, traveling on the 101. To avoid being pulled over, he maintains a speed of 60 miles per hour. At 1:20AM, Jason Borne leaves Isla Vista in the same direction at 100 miles per hour. At what time will Jason catch up to the bad guy?

Jason travels 40mpH faster, and the bad guy starts 80 mi ahead, so it will take 2 hours to catch him. So 3:20Am

3:20 Am