1. Simplify $\left(\frac{3x^2}{6x^5y^{-2}}\right)^{-3}$

$\frac{xxxxx}{xx} = \frac{x^5}{x^2} = x^{5-2} = x^3$

$= \left(\frac{3x^5y^{-2}}{3x^2}\right)^3 = \left(\frac{x^3}{2x^2y^2}\right)^3 = \frac{8x^9}{y^6}$

2. Solve for x.
$3(x+2) - 4(3x-7) = 16$

$3x+6-12x+28=16$

$-9x+34=16$ $\quad x=2$

$-9x=-18$

3. Solve
$4|x-3|=7$

$|x-3|=\frac{7}{4}$

$x-3=\frac{7}{4}$ $\quad +3\ +3=\frac{12}{4}$

$x=\frac{19}{4}$

$x-3=-\frac{7}{4}$ $\quad +3\ +3$

$x=\frac{5}{4}$

4. Solve
$3(x-2)\leq 18$

$3x-6\leq 18$

$+6\ +6$

$3x\leq 24$

$x\leq 8$

5. Peter's average on his first 3 exams was 80. What will be his average if he get 92 on his next exam?

$\text{Sum}_{③} = 80 \cdot 3$

$= 240$

$\text{Sum}_{④} = 240 + 92$

$= 332$

$\text{Avg}_{④} = 83$

6. In Store S, Isabelle bought a bag for $27, including 8% sales tax. What was the original price?

$\frac{1.08P}{1.08} = \frac{27}{1.08}$

$P = 25$

7. Solve
$3(x + 2)^2 = 48$

$(x+2)^2 = 16$

$x+2 = \pm 4$

$x = -2 \pm 4$

$-2+4 = 2$

$-2-4 = -6$