Practice Problems

19) $(5-3i)-(4-3i)$

1

20) $(3+4i)(7+3i)$

	3	4i
7	21	28i
3i	9i	-12

$9+37i$

21) $(5-5i)(7+3i)$

	5	$-5i$
7	35	-35
3i	15i	15

$50-20i$

22) $3i(4-2i)$

$12i+6$

$6+12i$

23) $\sqrt{-45}$

$3i\sqrt{5}$

24) $2\sqrt{-27}$

$6i\sqrt{3}$

Directions: Solve

25) $x^2-5x-6=0$

$(x-6)(x+1)=0$

$x+1=0$

$x=-1$

$x-6=0$

$x=6$

26) $2x^2+5x=-2$

$2x^2+5x+2=0$

$\frac{-5\pm\sqrt{25-4(2)(2)}}{2(2)} = \frac{-5\pm\sqrt{9}}{4} = \frac{-5\pm3}{4}$

$x=-2 \quad x=-\frac{1}{2}$

27) $25x^2+20x=-4$

$25x^2+20x+4=0$

100

$10 \mid 10$

	$5x$	$+2$
$5x$	$25x^2$	$10x$
$+2$	$10x$	4

$5x+2=0$

$x=-\frac{2}{5}$

28) $9x^2=4$

$9x^2-4=0$

$(3x-2)(3x+2)=0$

$x=\frac{2}{3} \quad x=-\frac{2}{3}$

29) $2x^2+4x-16=0$

$2(x^2+2x-8)=0$

$2(x+4)(x-2)=0$

$x=-4$

$x=2$

30) $x^2+2x+7=0$

$\frac{-2\pm\sqrt{4-4(7)}}{2} = \frac{-2\pm\sqrt{-24}}{2}$

$\frac{-2\pm2i\sqrt{6}}{2} = -1\pm i\sqrt{6}$

Practice Problems

Direction: Simplify

1) $\sqrt{49}$ 7

2) $4\sqrt{27}$ $12\sqrt{3}$

3) $2\sqrt{72x^5}$ $12x^2\sqrt{2x}$

4) $\sqrt{-32}$ $4i\sqrt{2}$

5) $2\sqrt{7} * 5\sqrt{5}$ $10\sqrt{35}$

6) $(1-\sqrt{7}) * (1+\sqrt{7})$ $1-7=-6$

7) $2\sqrt{5} * 3\sqrt{6}$ $6\sqrt{30}$

8) $\sqrt{5}(3+\sqrt{7})$ $3\sqrt{5}+\sqrt{35}$

9) $4\sqrt{7}+5\sqrt{7}$ $9\sqrt{7}$

10) $9\sqrt{10}-7\sqrt{10}$ $2\sqrt{10}$

11) $7\sqrt{8}-10\sqrt{32}$ $14\sqrt{2}-40\sqrt{2}$ $-26\sqrt{2}$

12) $\frac{1}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{\sqrt{13}}{13}$

13) $\frac{3}{\sqrt{21}} \cdot \frac{\sqrt{21}}{\sqrt{21}} = \frac{3\sqrt{21}}{21}$ $\frac{\sqrt{21}}{7}$

14) $\frac{1}{4+\sqrt{5}}$ $4-\sqrt{5}$ $4\cdot\sqrt{5}$ $=\frac{4-\sqrt{5}}{11}$

15) $\frac{3}{3-\sqrt{7}} \cdot \frac{3+\sqrt{7}}{3+\sqrt{7}} = \frac{9+3\sqrt{7}}{2}$

16) $i^{15} = i^3 = -i$

17) $i^{38} = i^2 = -1$

18) $(5+3i)+(2+4i)$ $7+7i$