

Q3 Exam 3 Practice Set #2

Perform the indicated polynomial operation.

1) $(7n^3 - 3n^2) + (5n^3 + 2n^2)$

2) $(5x + x^3) - (x^3 - 5x)$

3) $(2b - 1)(6b - 4)$

4) $(8x + 2)(2x + 5)$

Factor each completely - use factoring by grouping, rearrange if needed.

5) $6n^3 + 18n^2 - 2n - 6$

6) $a^3 - a^2 - a + 1$

Factor each quadratic completely, look for a GCF, use the magic number method for trinomials.

7) $m^2 - 15m + 54$

8) $r^2 + 5r - 24$

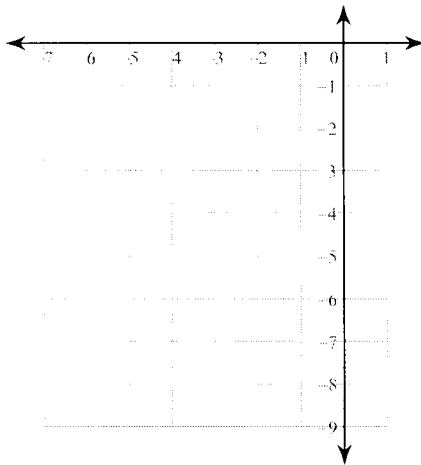
Factor each special pattern completely, these should be "mental math".

9) $25k^2 + 30k + 9$

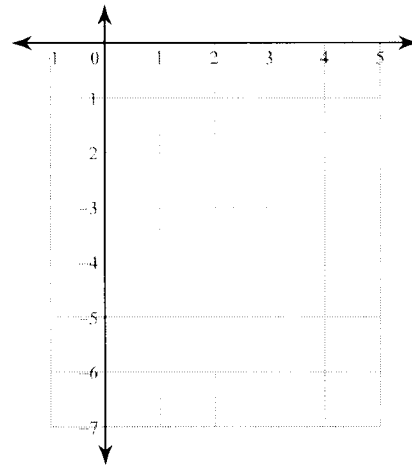
10) $9p^2 - 1$

Sketch the graph of each function.

11) $y = -x^2 - 2x - 5$



12) $y = -x^2 + 4x - 6$

**Solve each equation with the quadratic formula.**

13) $11b^2 = 2 - 7b$

14) $6v^2 - 75 = 7v$

Simplify.

15) $\frac{2}{3 + \sqrt{5}}$

16) $-\frac{5}{4 + \sqrt{2}}$

Answers to Q3 Exam 3 Practice Set #2

1) $12n^3 - n^2$

5) $2(3n^2 - 1)(n + 3)$

9) $(5k + 3)^2$

2) $10x$

6) $(a + 1)(a - 1)^2$

10) $(3p + 1)(3p - 1)$

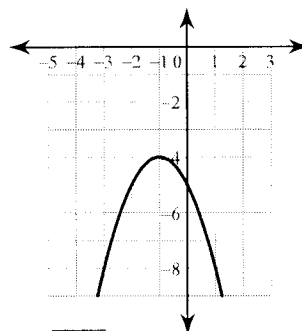
3) $12b^2 - 14b + 4$

7) $(m - 6)(m - 9)$

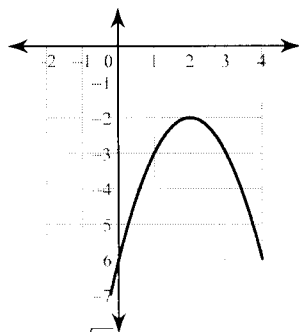
11)

4) $16x^2 + 44x + 10$

8) $(r - 3)(r + 8)$



12)



13) $\left\{ \frac{-7 + \sqrt{137}}{22}, \frac{-7 - \sqrt{137}}{22} \right\}$

14) $\left\{ 4\frac{1}{6}, -3 \right\}$

15) $\frac{3 - \sqrt{5}}{2}$

16) $\frac{-20 + 5\sqrt{2}}{14}$