Algebra 1
Concept Check
Factoring
Factor each polynomial.

Name Key per

/33

1. $t^2 + 8t + 12$ — 1. $(t+6)(t+2)$

2. $10q - 25q^2$ — 2. $5q(2-5q)$

3. $36xy^2 - 48x^2y$ — 3. $12xy(3y-4x)$

4. $x^2 - 4x - 45$ — 4. $(x+5)(x-9)$

5. $-4 - 3m + m^2$ — 5. $(m+1)(m-4)$

6. $8m - 6$ — 6. $2(4m-3)$

7. $3w^2 - 27$ $3(w^2-9)$ — 7. $3(w+3)(w-3)$

8. $g^2 + 3g - 10$ — 8. $(g+5)(g-2)$

9. $9x^2 - 3xy + 6x - 2y$ — 9. $(3x+2)(3x-y)$

10. $2mk - 12m + 42 - 7k$ — 10. $(2m-7)(k-6)$

/20

Solve each equation. Check your solutions.

11. $x^2 - 16 = 0$

11. 4, -4

12. $h^2 + 2h = 35$

12. -7, 5

13. $(a - 9)(2a + 1) = 0$

13. $9, -\frac{1}{2}$

14. $3a^2 = 6a$

14. 0, 2

15. The hop of a kangaroo can be modeled by $h = 24t - 16t^2$ where h represents the height of the hop in meters and t is the time in seconds. Find the values of t when $h=0$.

15. $t=0$
$t=1.5$ sec.

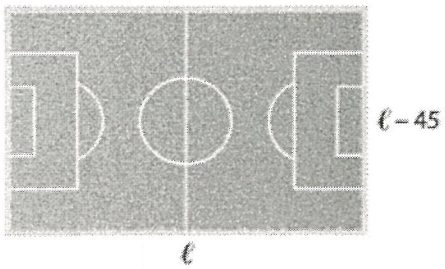
16. The width of a high school soccer field is 45 yards shorter then its length.

a. Define a variable, and write an expression for the area of the field.

a. $A = \ell^2 - 45\ell$

b. The area of the field is 9000 square yards. Find the dimensions.

b. $\ell = 120$ yd
$w = 75$ yd



/13