Practice Set 5.4

Use the choices to fill in each blank.

zero	greatest	coefficient	fraction	subtract	positive
one	general	consistent	factor	multiply	negative
two	graphing	common	function	add	variable

1. GCF stands for _____ _____ _____.

2. When a term of a polynomial is the GCF itself, _____ is written in the place of that term when the GCF is factored out.

3. To check the factoring process, _____ the factors.

4. When the leading coefficient of a polynomial is negative, factor out a common factor with a _____ coefficient.

Factor out the greatest common factor.

5. $3n + 9$ 6. $3x^2 + 6x - 9$

5._____

6._____

7. $8y^2 + 16y - 24$ 8. $-15x^2 + 20x - 10$

7._____

8._____

9. $-22x^2y^2 + 11xy - 33$ 10. $4x^3 - 8x^2 + 12x$

9._____

10._____

11. $-6a^5 + 4a^4 - 2a^2$ 12. $8a^3b - 12a^2b^2 - 20a^2b$

11._____

12._____

13. $-12p^2q^3 + 3p^3q^4 + 15pq^4$ 14. $-a^3b^4c^5 + 3a^2b^2c^3 - 2a^3b^3c^4$

13._____

14._____

Factor by grouping.

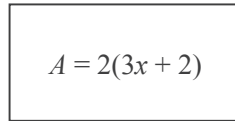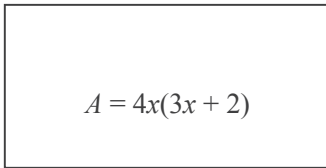15. $x(y - 2) - (y - 2)$ 16. $2x(y - 3) + 7(y - 3)$

15._____

16._____

17. $am + bm + an + bn$ 18. $x^2 + 4x - 4x - 16$

17._____

18._____

19. $2x^3 + 6x^2 - 7x - 21$ 20. $3x^4 - 2x^2 - 9x^3 + 6x$

19._____

20._____

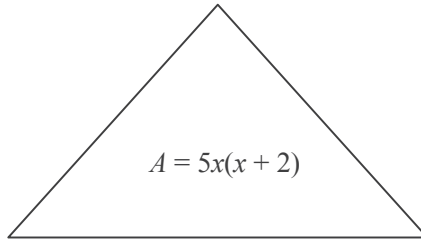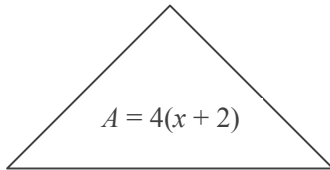Practice Set 5.4

Problem Solving

Find an expression in factored form for the difference of the areas of the geometric figures.
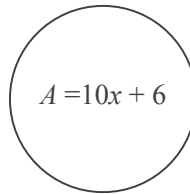
21.

$A = 4x(3x + 2)$

$A = 2(3x + 2)$

21._____

22.

$A = 4(x + 2)$

$A = 5x(x + 2)$

22._____

23.

$A = 5x^2 + 3x$

$A = 10x + 6$

23._____

24.

$A = 2x^2 + 4x$

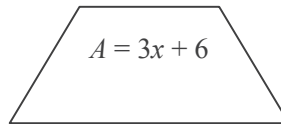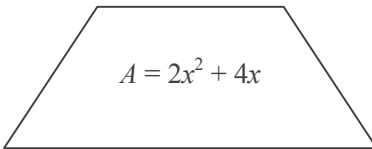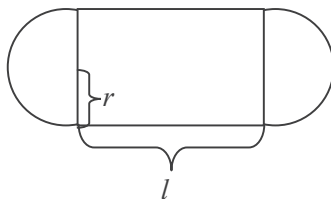$A = 3x + 6$
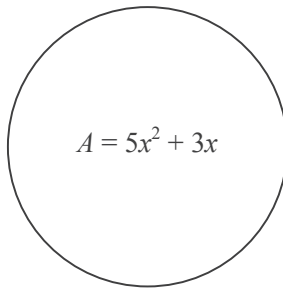
24._____

25. The distance around the running track shown below is
$P = 2\pi r + 2l$.

$-r$

l

a) Write the distance around the track in factored form.
b) Find P when $r = 50$ m and $l = 100$ m.
c) If the lanes of the track are 1 m wide, what is the difference
in the length of lane 1 and lane 2 running once around the
track?

25.a)_____

b)_____

c)_____

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