Lesson 9

READY, SET, GO! Name Period Date

READY

Topic: Factoring special products

Factor the following as the difference of 2 squares or as a perfect square trinomial. Do not factor if they are neither.

1. $b^2 - 49$
$=(b+7)(b-7)$

2. $b^2 - 2b + 1$
$=(b-1)^2$

3. $b^2 + 10b + 25$
$=(b+5)^2$

4. $x^2 - y^2$
$=(x+y)(x-y)$

5. $x^2 - 2xy + y^2$
$=(x-y)^2$

6. $25x^2 - 49y^2$
$=(5x+7y)(5x-7y)$

7. $36x^2 + 60xy + 25y^2$
$=(6x+5y)^2$

8. $81a^2 - 16d^2$
$=(9a+4d)(9a-4d)$

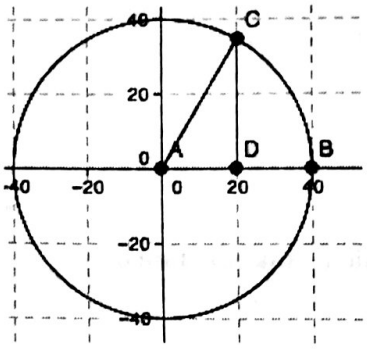
9. $144x^2 - 312xy + 169y^2$
$=(12x-13y)^2$

SET

Topic: Writing the equations of circles

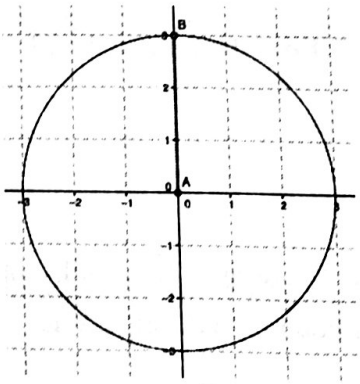
Write the equation of each circle centered at the origin. $x^2+y^2=r^2$

10.



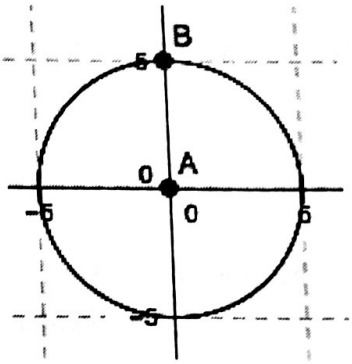
$x^2+y^2=1600$

11.



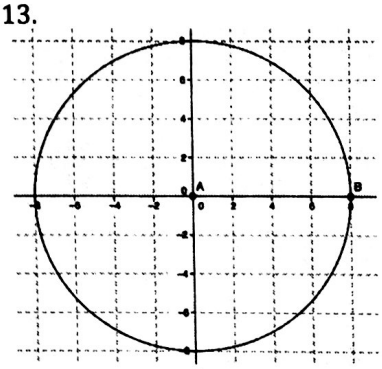
$x^2+y^2=9$

12.



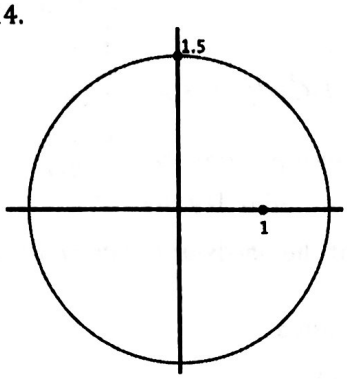
$x^2+y^2=25$

13.



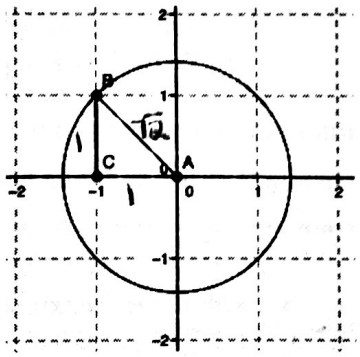
$x^2+y^2=64$

14.



$x^2+y^2=2.25$

15.



$x^2+y^2=2$

GO

Topic: Verifying Pythagorean triples

Identify which sets of numbers could be the sides of a right triangle. Show your work. Does a^2+b^2 equal c^2? (c-longest)

16. $\{9,12,15\}$

$9^2+12^2 \quad 15^2$
$225 = 225$
Could be right Δ

17. $\{9,10,\sqrt{19}\}$

$(\sqrt{19})^2+9^2 \quad 10^2$
$100 = 100$
Could be right Δ

18. $\{1,\sqrt{3},2\}$

$1^2+(\sqrt{3})^2 \quad 2^2$
$4 = 4$
Could be right Δ

19. $\{2,4,6\}$

$2^2+4^2 \quad 6^2$
$20 \neq 36$
Cannot be right Δ

20. $\{\sqrt{3},4,5\}$

$(\sqrt{3})^2+4^2 \quad 5^2$
$19 \neq 25$
Cannot be right Δ

21. $\{10,24,26\}$

$10^2+24^2 \quad 26^2$
$676 = 676$
Could be right Δ

22. $\{\sqrt{2},\sqrt{7},3\}$

$(\sqrt{2})^2+(\sqrt{7})^2 \quad 3^2$
$9 = 9$
Could be right Δ

23. $\{2\sqrt{2},5\sqrt{3},9\}$

$(2\sqrt{2})^2+(5\sqrt{3})^2 \quad 9^2$
$8+75 \neq 81$
Cannot be right Δ

24. $\{4ab^3\sqrt{10},6ab^3,14ab^3\}$

$(4ab^3\sqrt{10})^2+(6ab^3)^2 \quad (14ab^3)^2$
$160a^2b^6+36a^2b^6 = 196a^2b^6$
Could be right Δ