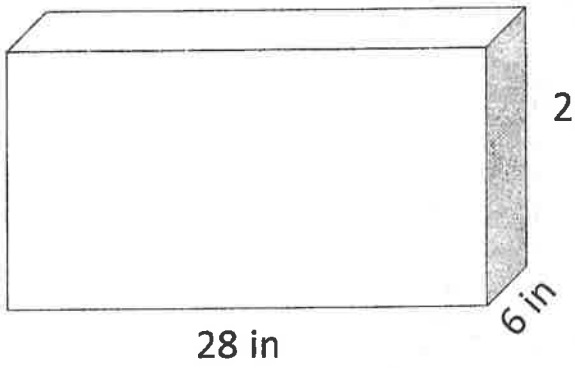
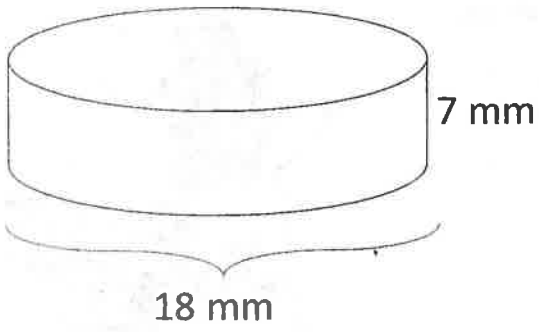
1)



Surface Area = _____

Volume = _____

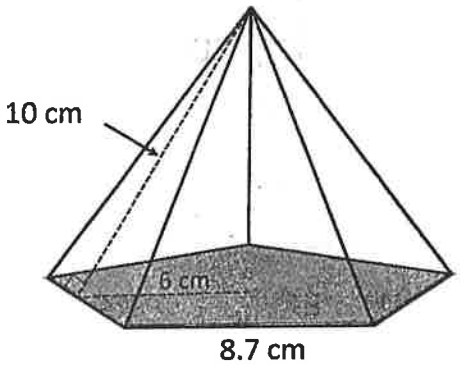
2)



Surface Area = _____

Volume = _____

3) The base is a regular pentagon.



Surface Area = _____

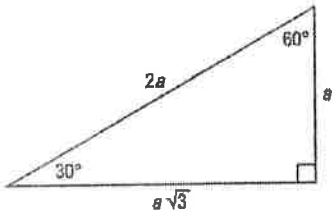
Volume = _____
(need to find pyramid height first)

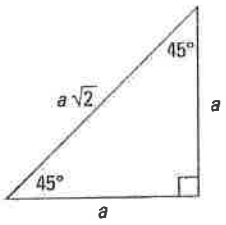
4) This snowman is composed of perfect spheres.

If the head has half the volume of the middle section and the middle section has half the surface area of the bottom, then find the radius of the bottom knowing that the radius of the top is 1.4 feet.

Special Right Triangles Station

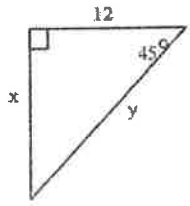
Name_____



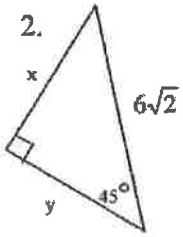


Find x and y in each right triangle:

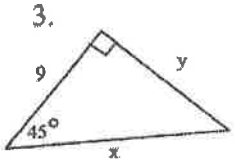
1.



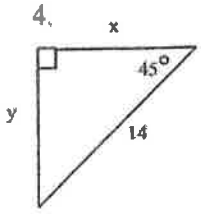
2.



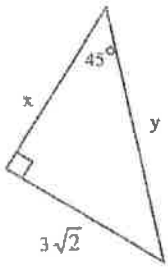
3.



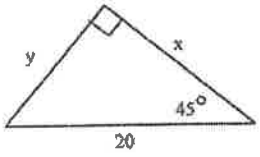
4.



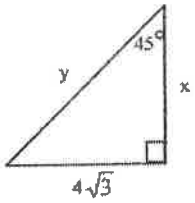
5.



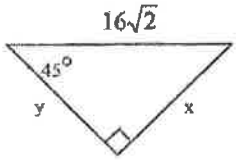
6.



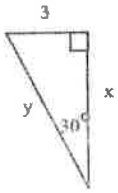
7.



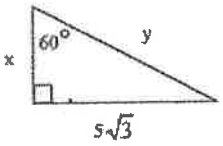
8.



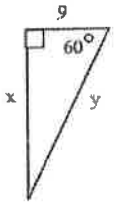
9.



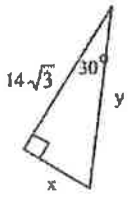
10.



11.



12.



13. A square has an area of 25 square feet. What is the length of the diagonal?

EXPONENTS PRACTICE −5+

Simplify:

1. $3 \cdot 4^3$
2. $4x^3 \cdot 2x^3$
3. $x^5 \cdot x^3$
4. $2x^3 \cdot 2x^2$
5. $\frac{6^5}{6^3}$
6. $\frac{x^4}{x^7}$
7. 8^0
8. $-(9x)^0$
9. $(y^4)^3$
10. $(x^2y)^4$
11. $\frac{6x^7}{2x^4}$
12. $\frac{8x^5}{4x^2}$
13. $(2cd^4)^2(cd)^5$
14. $(2fg^4)^4(fg)^6$
15. $\frac{x^5y^6}{xy^2}$
16. $\frac{x^2y^5}{xy^4}$
17. $\left(\frac{4x^5y}{16xy^4}\right)^3$
18. $\left(\frac{5x^3y}{20xy^5}\right)^4$
19. y^{-7}
20. 7^{-2}
21. $\frac{1}{x^{-5}}$
22. $\frac{1}{2^{-4}}$
23. $x^5 \cdot x^{-1}$
24. x^{-6}
25. $x^9 \cdot x^{-7}$
26. $(j^{-13})(j^4)(j^6)$
27. $\frac{x^{-1}}{x^{-8}}$
28. $\frac{52x^6}{13x^{-7}}$
29. $f^{-3}(f^2)(f^{-3})$
30. $\frac{x^{-4}}{x^{-9}}$
31. $\frac{24x^6}{12x^{-8}}$
32. $\frac{3x^2y^{-3}}{12x^6y^3}$

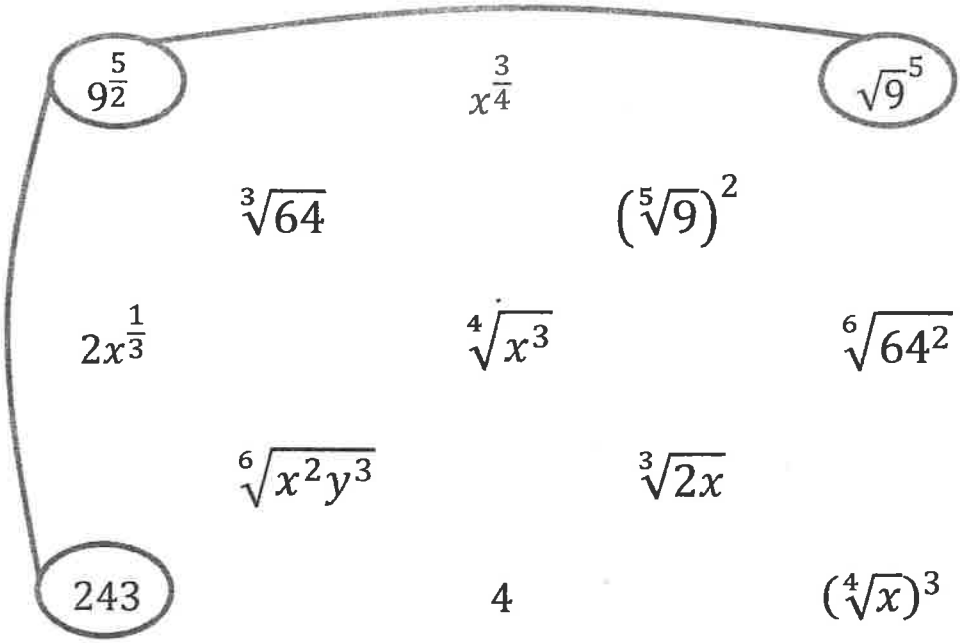
For once, no work needs to be shown (though often writing down steps is helpful). Just remember, the practice you get here will help you be ready for tests and quizzes. So when you write your answers in the box, make sure they represent your own work.

1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	
8		16		24		32	

Fraxponent Matching

Name _____

Match the equivalent expressions. Note that some will match more than one. There is one selection that does not have a match. One example is done for you.



Write expressions that fulfill the specifications for each problem below. Note that, in some cases, the same answer may work for more than one question.

1) Write an expression equivalent to x^8 using a squared.

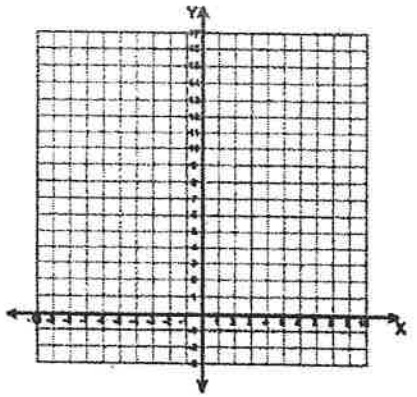
2) Write an expression equivalent to x^8 using a fraction.

3) Write an expression equivalent to x^8 using a negative exponent.

4) Write an expression equivalent to x^8 using a radical.

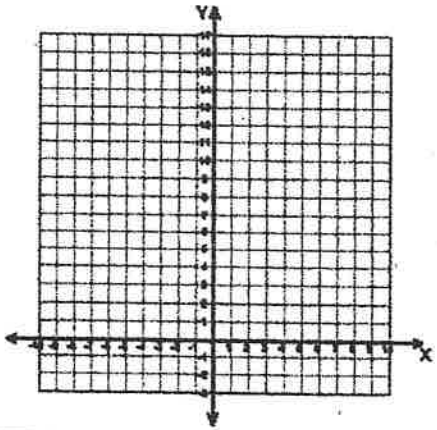
Graphing Exponentials - station

1) $y = 3^x$



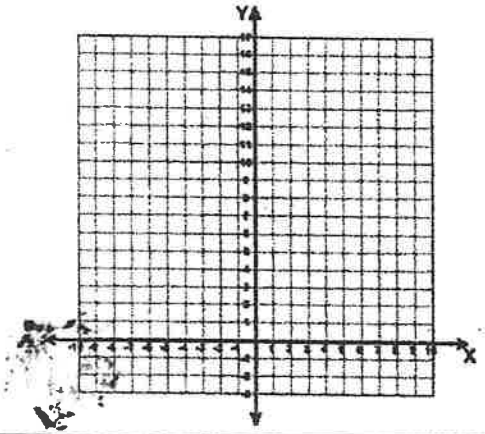
x	y
3	(off graph)
2	
1	
0	
-1	
-2	
-3	

2) $y = 2^{-x}$



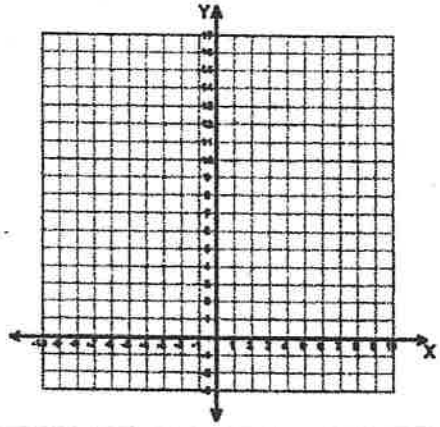
x	y
3	
2	
1	
0	
-1	
-2	
-3	

3) $y = 3 \cdot 2^x$



x	y
3	(off graph)
2	
1	
0	
-1	
-2	
-3	

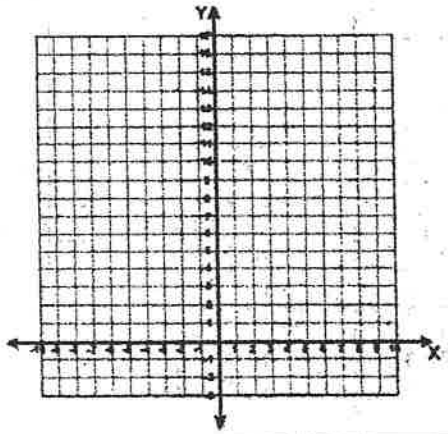
4) $y = \left(\frac{1}{2}\right)^x$



x	y
3	
2	
1	
0	
-1	
-2	
-3	

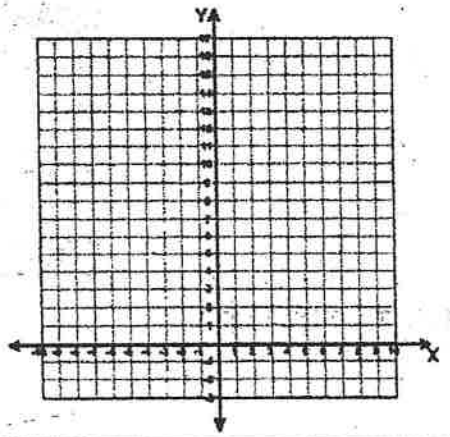
Graphing Exponentials - station

5) $y = 2 + 3^x$



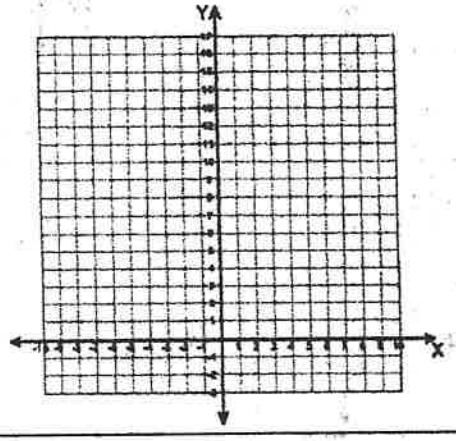
x	y
3	(off graph)
2	
1	
0	
-1	
-2	
-3	

6) $y = 2^{x+1}$



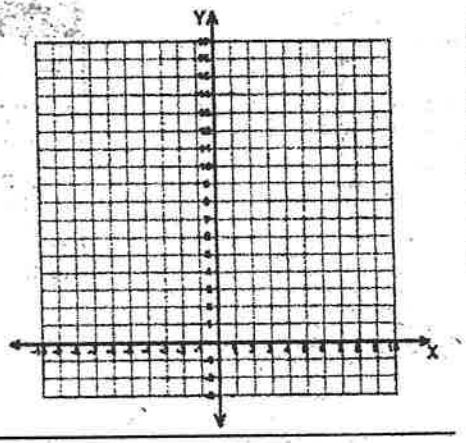
x	y
3	
2	
1	
0	
-1	
-2	
-3	

7) $y = 2^x + 3$



x	y
3	
2	
1	
0	
-1	
-2	
-3	

8) $y = 3 \cdot 2^{x-1} + 1$



x	y
3	
2	
1	
0	
-1	
-2	
-3	