Name: _____

Math 2C Practice Final – Multiple Choice

_____1. Simplify $3x^{\frac{1}{2}} \cdot 2x^{\frac{3}{2}} \cdot 2x^{0}$

a. $2x^2$
b. $2x^4$
c. $12x^2$
d. $3x^{\frac{3}{2}}$

_____2. Simplify $\sqrt{-20}$

a. $2i\sqrt{5}$
b. $10i$
c. $-5\sqrt{2}$
d. $2\sqrt{5}$

_____3. Simplify $\left(3x^4-2\right)-\left(4+5x^2-x^4\right)$

a. $-4x^4-5x^2+2$
b. $-4x^4-5x^2-6$
c. $-4x^4-10x^2+2$
d. $4x^4-5x^2-6$

_____4. Simplify $\left(2r-1\right)^2$

a. $4r^2-4r+1$
b. $8r^2-8$
c. $4r^2+1$
d. $8r^2-16r+8$

_____5. Factor $16n^2-9$

a. $\left(4n-3\right)^2$
b. $\left(4n+3\right)\left(4n-3\right)$
c. $\left(-4n+3\right)\left(4n-3\right)$
d. $\left(4n+1\right)^2$

_____6. Factor $2n^2+11n-21$

a. $\left(2n+7\right)\left(n-3\right)$
b. $\left(2n+3\right)\left(n-7\right)$
c. $\left(2n-3\right)\left(n-7\right)$
d. $\left(2n-3\right)\left(n+7\right)$

____7. Find the x-intercepts $x^2+14x+48=0$

a. $\{7,-3\}$

b. $\{-6,-8\}$

c. $\{6,4\}$

d. $\{7,6\}$

____8. Solve $p^2+4=20$

a. $\{2\sqrt{6},-2\sqrt{6}\}$

b. $\{4\}$

c. $\{4,-4\}$

d. $\{10,-10\}$

____9. Solve $6v^2+7v-2=0$

a. $\left\{\frac{-7+\sqrt{97}}{12},\frac{-7-\sqrt{97}}{12}\right\}$

b. $\left\{\frac{7+\sqrt{97}}{12},\frac{7-\sqrt{97}}{12}\right\}$

c. $\left\{\frac{2}{3},\frac{1}{2}\right\}$

d. $\left\{-\frac{1}{2},-\frac{2}{3}\right\}$

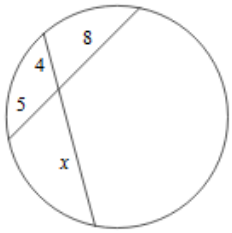
____10. Solve for x

a. 8

b. 11

c. 9

d. 10



____11. Given $g(n)=n^3+2n^2$ find $g(-6)$

a. 45

b. 1

c. 16

d. -144

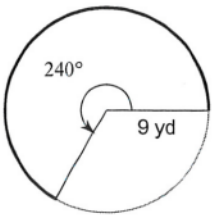
____12. Find the length of the arc.

a. 169.6 yd

b. 26.2 yd

c. 37.7 yd

d. 538.8 yd



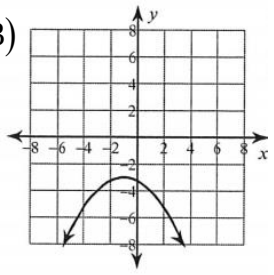
_____13. Identify the vertex, axis of symmetry, and min/max value of $y=-\frac{1}{4}(x-3)^2+1$.

a.

Vertex: $(-1,-3)$

Axis: $x=-1$

Max: -3

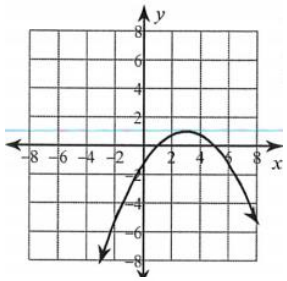


b.

Vertex: $(3,1)$

Axis: $x=3$

Max: 1

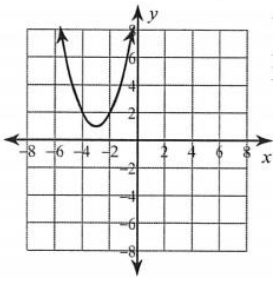


c.

Vertex: $(-3,1)$

Axis: $x=-3$

Max: 1

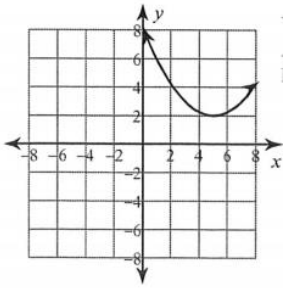


d.

Vertex: $(5,2)$

Axis: $x=5$

Max: 2



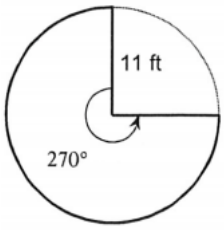
_____14. Find the area of the sector.

a. $8.4\ ft^2$

b. $285.1\ ft^2$

c. $102635.8\ ft^2$

d. $167.6\ ft^2$



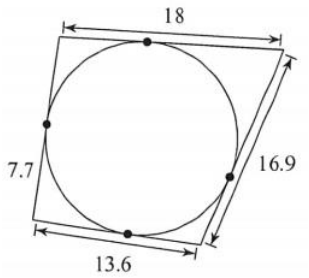
____15. Find the perimeter of the polygon. Assume that lines which appear to be tangent are tangent.

a. 45.3

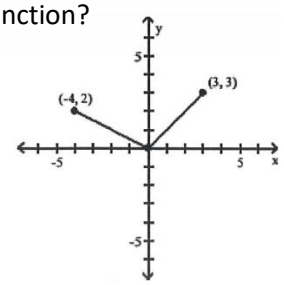
b. 44.8

c. 63.2

d. 39.7



_____16. The graph represents which piece-wise function?



a. $f(x)=\begin{cases}-\frac{1}{2}x & \text{if } -4<x<0\\ x & \text{if } 0<x<3\end{cases}$ b. $f(x)=\begin{cases}-2x & \text{if } -4\le x\le 0\\ x & \text{if } 0<x\le 3\end{cases}$

c. $f(x)=\begin{cases}-\frac{1}{2}x & \text{if } -4\le x\le 0\\ x & \text{if } 0<x\le 3\end{cases}$ d. $f(x)=\begin{cases}\frac{1}{2}x & \text{if } -4<x<0\\ x & \text{if } 0<x<3\end{cases}$

____17. Find $p(F\mid C)$.

	Friend	Not Friend	Total
Class	74		
No Class		1005	
Total	120		1400

a. 0.21 b. 0.05

c. 0.62 d. 0.27

A gumball machine contains 5 pink gumballs, 10 yellow gumballs, and 7 blue gumballs. Find the probability of randomly selecting the following:

____18. A yellow gumball

a. $\frac{5}{11}$

b. $\frac{5}{22}$

c. $\frac{7}{22}$

d. $\frac{10}{11}$

____19. A blue gumball and then a pink gumball without replacement.

a. $\frac{35}{43}$

b. $\frac{5}{66}$

c. $\frac{4}{7}$

d. $\frac{35}{484}$

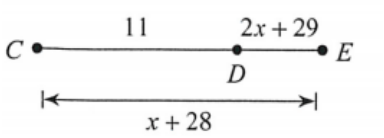
____20. Find a value for x that would prove the segment addition postulate.

a. -11

b. 1

c. 5

d. -12



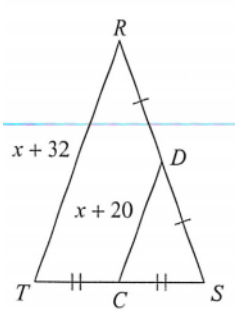
____21. Solve for x.

a. -8

b. -6

c. 11

d. -10



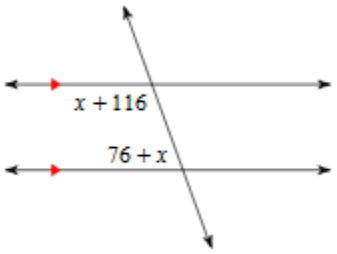
____22. State the value for *x* that proves lines *u* and *v* are parallel.

a. 40

b. 6

c. 14

d. -6



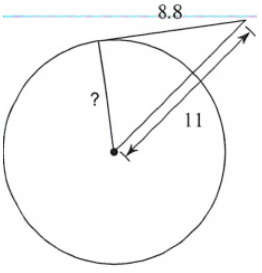
____23. Find the indicated segment length. Assume that lines which appear to be tangent are tangent.

a. 43.6

b. 14.1

c. 6.6

d. 4.4



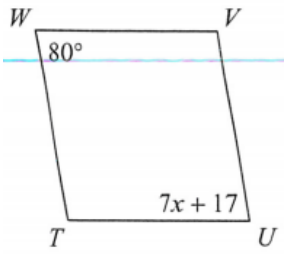
____24. Given a parallelogram, solve for *x*.

a. 10

b. 1

c. 3

d. 9



____25. State if the triangles are similar. If so, state how you know they are similar and complete the similarity statement

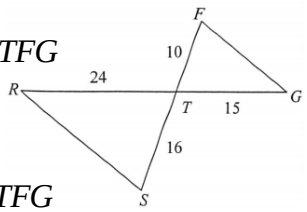
$\Delta TSR \sim$ ____

a. similar; SAS similarity; ΔTFG

b. not similar

c. similar; AA similarity; ΔTFG

d. similar; SSS similarity; ΔTFG



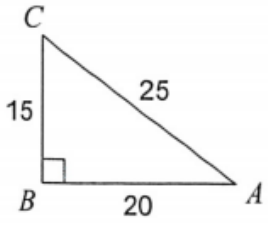
____26. Find the value of the trigonometric ratio $\tan C$.

a. $\frac{5}{3}$

b. $\frac{4}{3}$

c. $\frac{3}{4}$

d. $\frac{4}{5}$



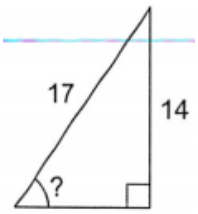
____27. Find the measure of the indicated angle to the nearest degree.

a. 55°

b. 35°

c. 33°

d. 51°



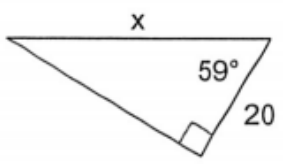
____28. Find the missing side. Round to the nearest tenth.

a. 38.8

b. 23.3

c. 21.2

d. 10.3



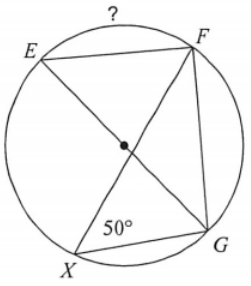
____29. Find the measure of the indicated arc.

a. 98°

b. 64°

c. 80°

d. 113°



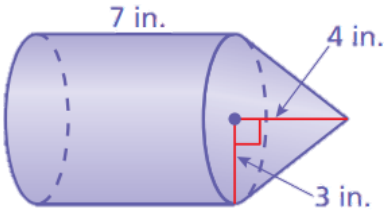
____30. Find the volume. Round to the nearest hundredth, if necessary.

a. $254.47\ in^3$

b. $58.90 in^3$

c. $311.02\ in^3$

d. $235.62\ in^3$



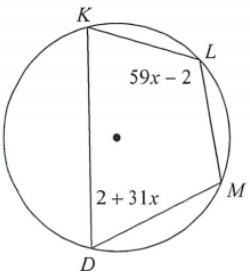
____31. Find $m\angle KDM$

a. 57°

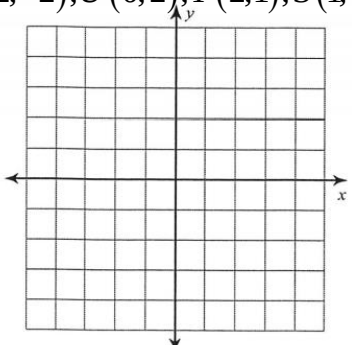
b. 70°

c. 95°

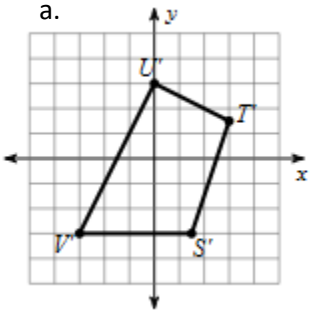
d. 64°



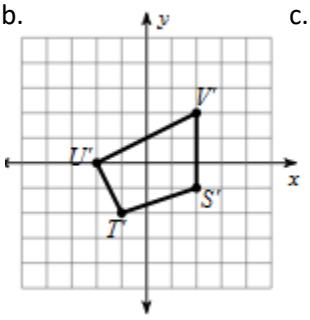
_____32. Graph the points $V(-2,-2), U(0,2), T(2,1), S(1,-2)$, the dilate the figure by 1.5



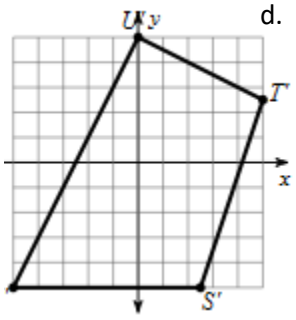
a.



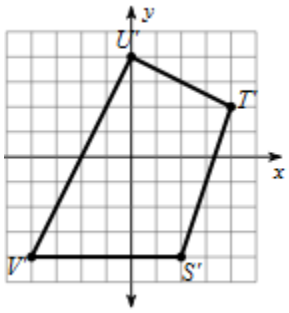
b.



c.



d.



____33. What is the equation of the circle shown to the right. Use the information provided to write the equation of the circle.

a. $(x-4)^2+(y-2)^2=9$

b. $(x+4)^2+(y+2)^2=9$

c. $(x+4)^2+(y+2)^2=3$

d. $(x-4)^2+(y-2)^2=6$