Algebra II 2nd Edition Online Test 24

Q1
3 is not included in range so answer is D

Q2
Chords may or may not be equal in length nor formal similar triangles because they do not pass through the origin. Answer E

Q3
2x-3y+z=17
x+4y-z=-2
-2x+y+5z=85

X is the easiest to eliminate using equation 2. Get two equations
-11y+3z=21
9y+3z=81
The subtract to eliminate x

20y=60
Y=3 and z=18
Use y and z to find value of x: =-2-4y+z=4

Answer = 216 – C

Q4
Equation of shaded line is y=-6x + 12
Consider point in shaded area (6,0) we know then that 0 <0(6)+12 so eqn is y<-6x+12

Slope of solid line = 6/8 = 3/4 and intercept is roughly 7/4
Consider point in shaded area (6,0): 0 < (3/4)6 +7/4 so equation is y <= 3/4x + 7/4

Choice D is the only reasonable choice

Q5
Distance = Time x Speed
So speed downstream= 5mph

Instead the boat took 2 hours longer to do 10miles
So 10 = 5 x Speed => Speed= 2 mph

So boat + current = 5
    Boat – current = 2
Boat = 7/2
And current =3/2
Choice A

Q6

$17x^2 - 200x - 5 = 0$

$x = \dfrac{200 \pm \sqrt{40340}}{34}$

Answer C

Q7

Answer D

One x value (2) is mapped to multiple y values (2,-1)

Q8

$3x - \dfrac{24}{x} - 6 = 0$

$3x^2 - 6x - 24 = 0$

$x^2 - 2x - 8 = 0$

$x^2 - 4x + 2x - 8 = 0$

$(x - 4) + (x + 2) = 0$

$x = 4, -2$

$y = -12, 6$

Answer : D

Q9

F(4)= $\dfrac{2(4) - 5(4^2) = -72}{Answer : E}$

Q10

$R = k\dfrac{c}{f}$

$120 = k\dfrac{300}{15} ->:(Given)$

$k = 6$

$90 = 6\dfrac{c}{10}$

$c = 150$

Answer : D

Q11

$4(-1)^2 - 3(-1)(i) - \sqrt{-1}\sqrt{3}\sqrt{3}$

$+4 + 3i - 3i$

$+4$

Answer : E

Q12

$\sqrt{(-3-4)^2 + (4-3)^2} = \sqrt{50} = 5\sqrt{2}$

Answer : A

Q13

Speed of Current = 4mph

Distance = Time x Speed, In this case we need to equate times for two journeys

Let speed of boat be x then,

$\dfrac{76}{x+4} = \dfrac{20}{x-4}$

$76x - 304 = 20x + 80$

$56x = 384$

Answer : B

Q14

Not enough information to complete the question

Answer E

Q15

$4x^2 - 5x - 4$

$x = \dfrac{5 \pm \sqrt{89}}{8}$

Answer : C

Q16

$3x^2 + 6x + 9 = 0$

$x^2 + 2x + 3 = 0$

$x = \dfrac{-2 \pm \sqrt{-8}}{2} = x = \dfrac{-2 \pm 2\sqrt{-2}}{2} = -1 \pm \sqrt{2}i$

Answer : B

Q17

Add both equations to get $\begin{array}{c}3x^2 = 432 \\ x = \pm 12\end{array}$ so use x to find y: $\begin{array}{c}y^2 = 289 - 144 \\ y = \sqrt{145}\end{array}$

Answer : *B*

Q18
We know that 3x-10+12x-40=180
Or 15x=230, x=46/3

N=3x-10
N=36
Answer A

Q19

(-30 cos -150, -30 sin-150) + (-25cos40, -25 sin 40)
(6.829,-1.069)

Answer D

Q20
Cos 30 = 12/B

B= $\dfrac{12}{\dfrac{\sqrt{3}}{2}} = \dfrac{24}{\sqrt{3}} = 8\sqrt{3}$

Answer : *A*