Geometry Homework #7

1) Find (exactly AND approximately) the surface area and volume for a right cone with a diameter of 16 and a height of 6.

2) Find (exactly AND approximately) the surface area and volume for a sphere with a radius of 18.

3) Find (exactly AND approximately) the surface area and volume for a right cylinder with a diameter of 14 and a height of 24.

4) Find (exactly AND approximately) the surface area and volume for a right cone with a radius of 12 and a slant height of 13.

5) Find (exactly AND approximately) the surface area and volume for a sphere with a diameter of 8.

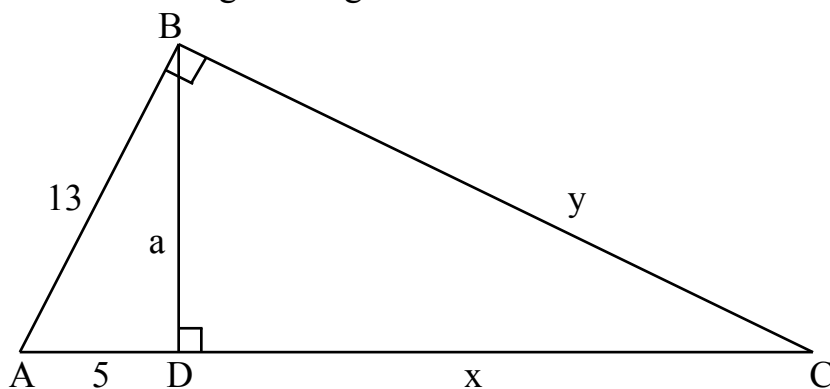6) If BD is an altitude of right triangle ABC and AB = 6 while AD = 4, find x.
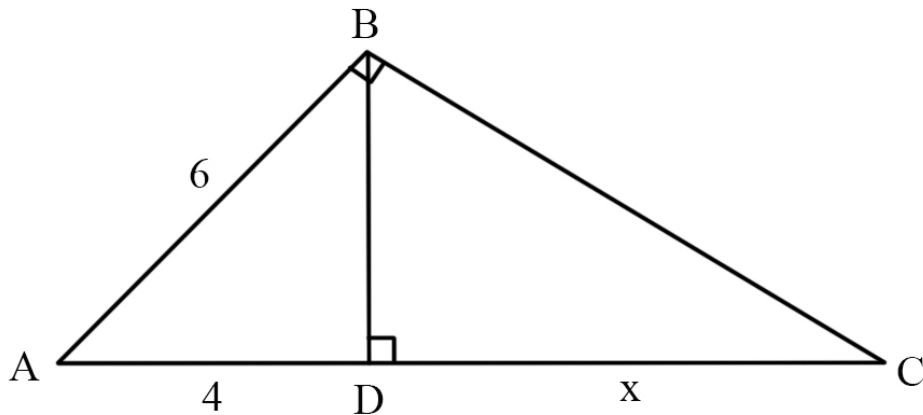
7) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of triangle AGF = 9, what is the area of quadrilateral DGEB? If DG = 14, what is the length of GC?
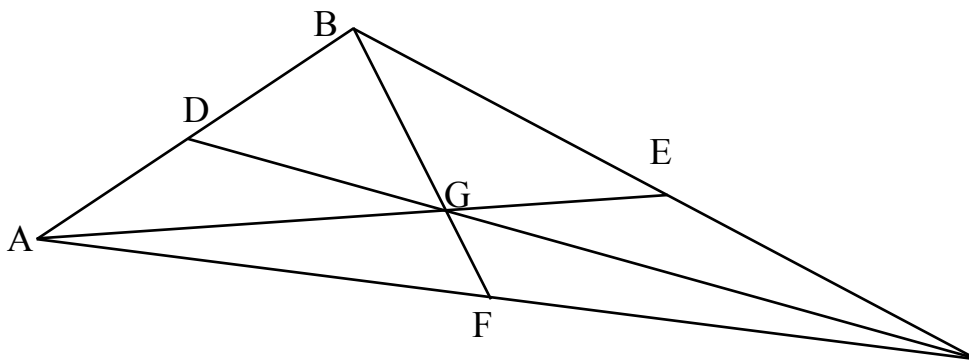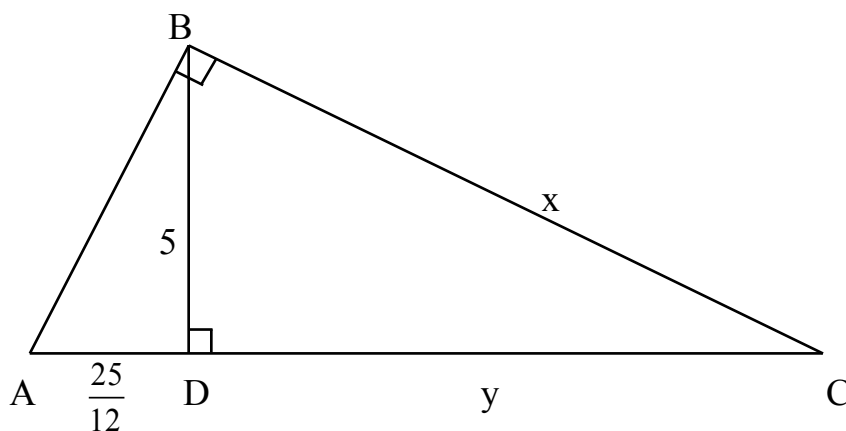
C

8) If BD is an altitude of right triangle ABC and AB = 13 while AD = 5, find a, x, and y.

B

13

a

A   5   D   x   C

9) If BD is an altitude of right triangle ABC and BD = 5 while AD = $\dfrac{25}{12}$, find x and y.

B

5

x

A $\dfrac{25}{12}$ D   y   C

10) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of triangle ABE = 18, what is the area of triangle AGC? If BF = 15, what is the length of BG?
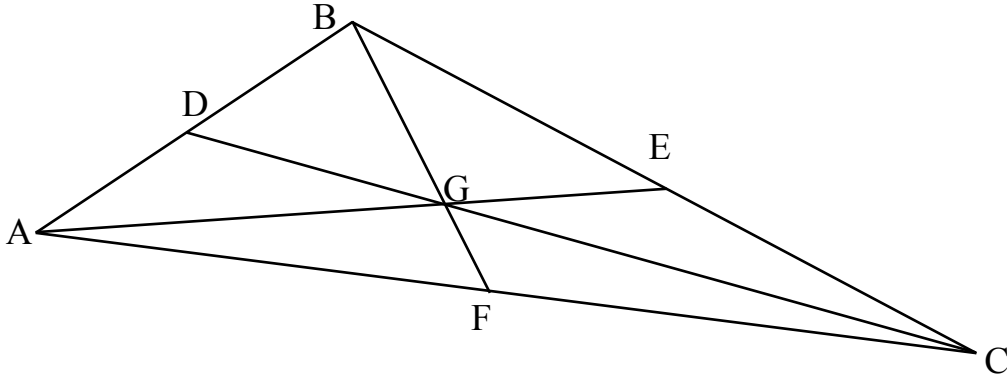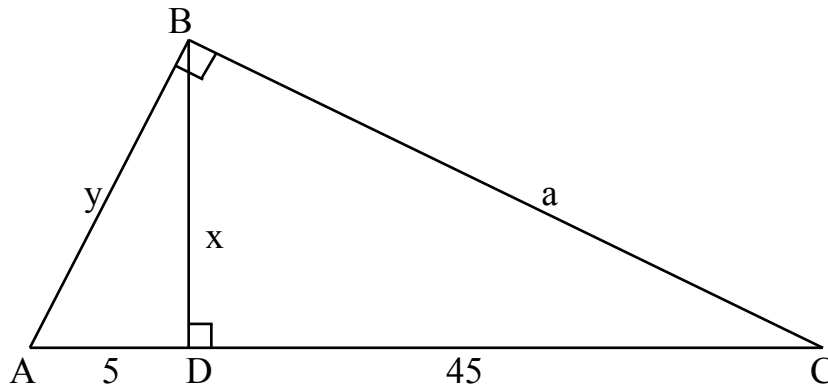

11) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of triangle ABE = 32, what is the area of triangle AEC? If BG = 26, what is the length of GF?
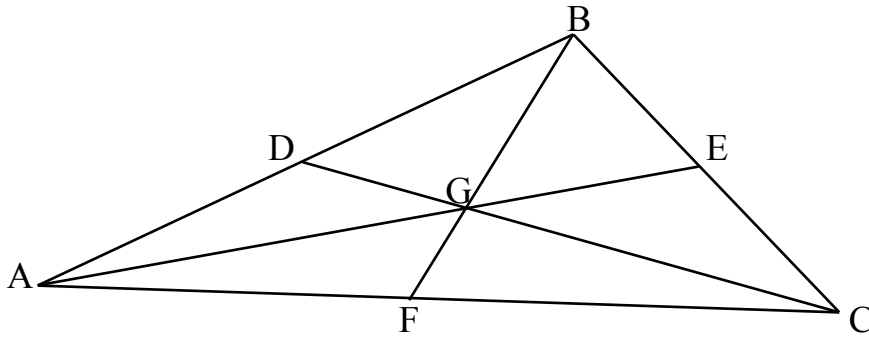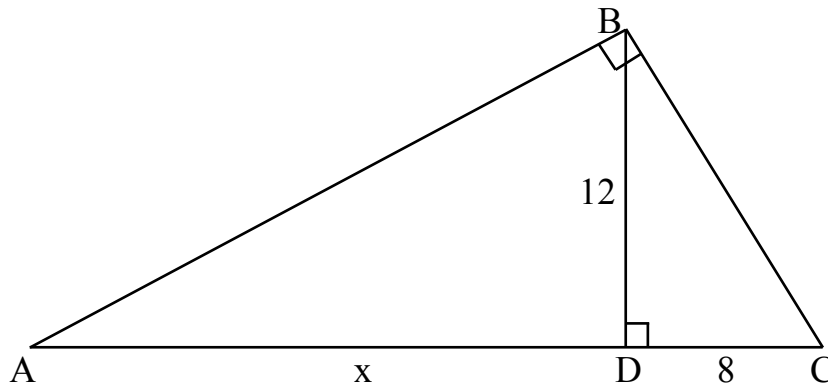
12) If BD is an altitude of right triangle ABC and DC = 45 while AD = 5, find a, x, and y.

13) If BD is an altitude of right triangle ABC and BD = 12 while DC = 8, find x.

14) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of polygon ADGEC = 24, what is the area of triangle BGD? If AE = 30, what is the length of AG?
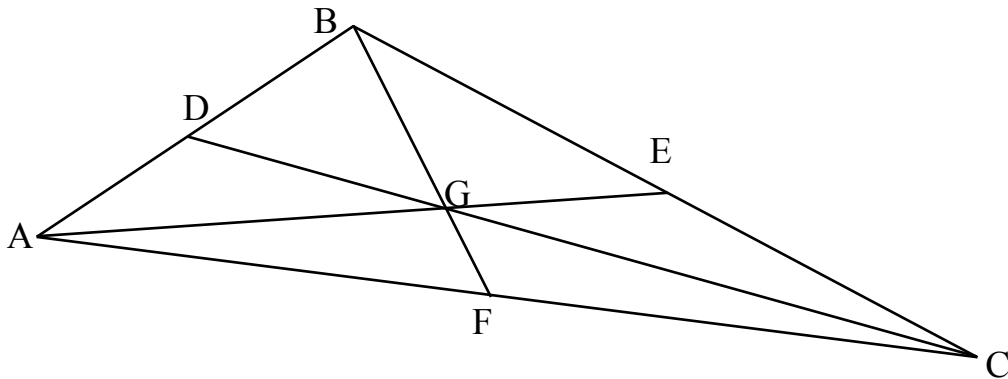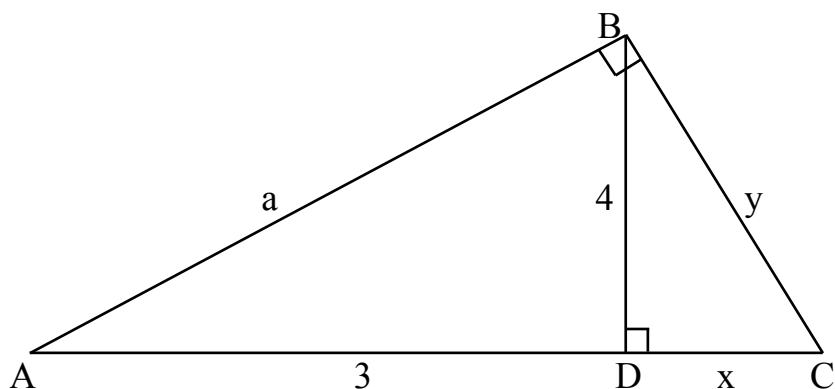
15) AE, BF, and CD are all medians of right triangle ABC, and they all intersect at point G. Angle ABC is a right angle. If the area of triangle ABE = 24, what is the area of triangle FGC? If BF = 27, what is the length of BG? If BE = 4, what is the length of AC?
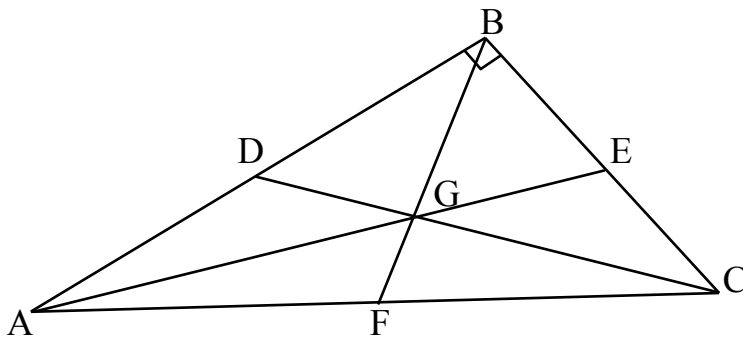
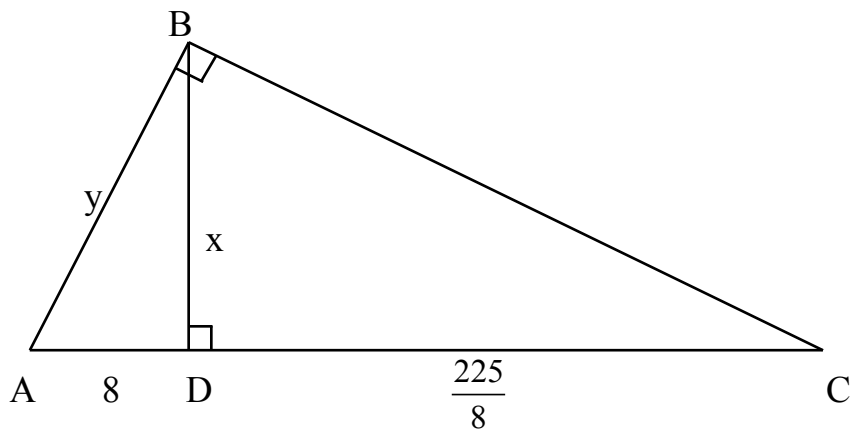16) If BD is an altitude of right triangle ABC and BD = 4 while AD = 3, find a, x, and y.

B

a   4   y

A   3   D   x   C

17) If BD is an altitude of right triangle ABC and DC = $\frac{225}{8}$ while AD = 8, find x and y.

B

y

x

A   8   D $\frac{225}{8}$ C

18) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of triangle ACD = 21, what is the area of triangle BGC? If AB = 4, EG = 3, and CD = 15, what is the perimeter of triangle ADG?
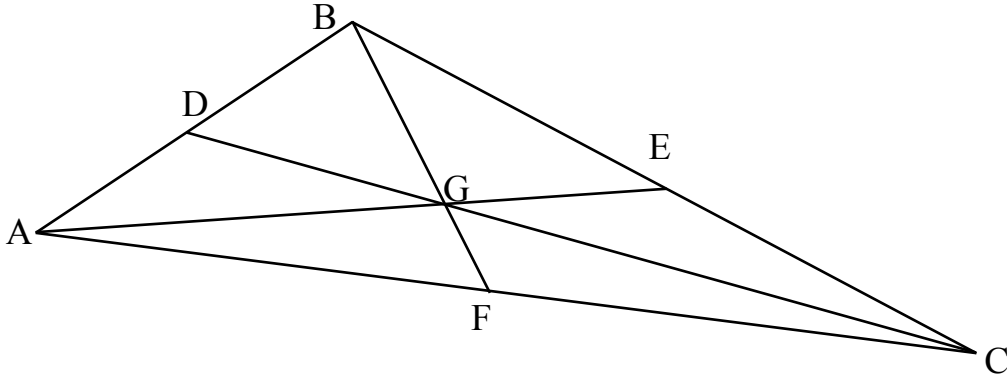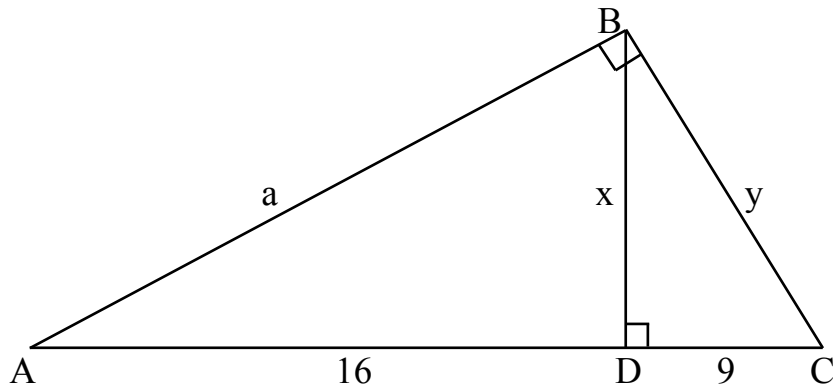

19) AE, BF, and CD are all medians of triangle ABC, and they all intersect at point G. If the area of triangle ABC = 78, what is the area of triangle CFG? If AB = 12, GF = 2, and GC = 14, what is the perimeter of triangle DGB?
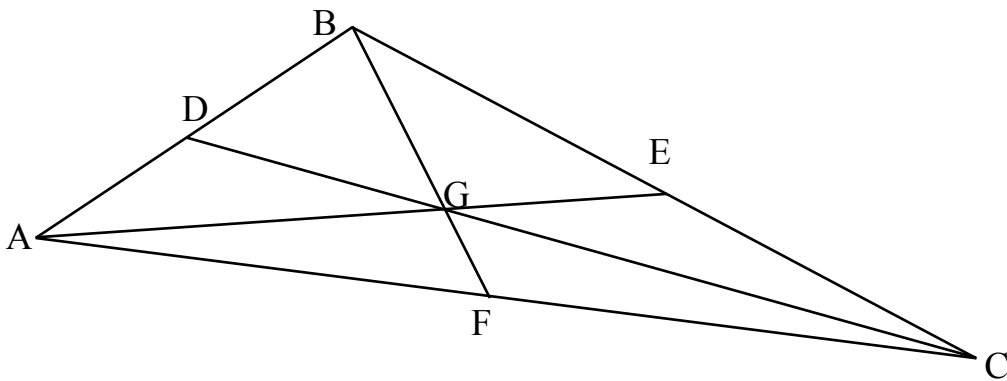
20) If BD is an altitude of right triangle ABC and DC = 9 while AD = 16, find a, x, and y.