INTELLECTUAL PROPERTY OFFICE OF SINGAPORE

QE 2020 PAPER C – ANSWER GUIDELINES

S/No	Category	Marks
I.	Construction	25.5 marks
II.	Infringement	21.5 marks
III.	Novelty	26.5 marks
IV.	Inventive Step	8.5 marks
V.	Analysis and Miscellaneous	18 marks
	Total	**100 marks**

(I) CONSTRUCTION

Claim	Feature	Meaning	Marks
1	A running shoe, comprising:	**"running shoe"** = any shoe that is suitable for running [**0.5**] This thereby excludes shoes for other purposes besides running due to injury risks. Examples for the exclusion include sandals, slippers, etc. **[0.5]** "comprising" = must include all the features listed in the claim, but not limited thereto **[0.5]**	1.5
	a shoe main body into which a foot is insertable; and	**"shoe main body"** = the terms "main" and "into which" suggest that the body provides a housing for a foot therein; e.g. Figs 1-5: "10" **[0.5]** These requirements of the "shoe main body" again exclude certain types of footwear e.g. slippers **[0.5]**	1
	a plate spring that is large enough to cover a length of the shoe main body, is attached to a lower portion of the shoe main body, and is closed at a heel end portion thereof,	**"plate spring"** = a substantially planar device/assembly that provides a resilient force upon deformation, in order to return to its original shape or position when the resilient force is released. **[1]** **"cover a length of the shoe main body" =** "cover" = plain meaning to mean extend over **[0.5]** "a length of the shoe main body" = Reasonable discussion as to whether	10

Claim	Feature	Meaning	Marks
		this covers the entire length of the shoe main body. • Possible interpretations: Does it includes a plate spring of any length of the shoe main body? Or does it strictly cover the *entire* length of the shoe main body? **[1]** • For citing any of the following passages from the specification as support **[1]** ○ Para [5] states “a plate spring 5 formed below the shoe main body 10 so as to extend along the entire length of the shoe main body 10”. ○ Para [6] states “The plate spring 5 includes a hard stepping plate 1 that extends from a heel-end portion to a toe-end portion of the plate spring 5 and a hard ground-side plate 2 that also extends from the heel-end portion to the toe-end portion”. ○ Para [7] states “The plate spring 5 is attached to a lower surface of the shoe main body 10 at a	

Claim	Feature	Meaning	Marks
		position on the toe side of the shoe main body 10 (see FIG. 4). Accordingly, the stepping plate 1 of the plate spring 5 moves away from the shoe main body 10 at the heel". • Accordingly, a skilled reader would likely construe the plate spring as spanning at least across an entire length of the shoe main body **[1]** **"is attached to a lower portion of the shoe main body" =** Plain meaning of "attached to" to mean being affixed to the lower portion of the shoe main body (i.e., portion that is closest to the ground). **[0.5]** "closed at a heel end portion" = Reasonable discussion as to what the spring plate being "closed at the heel end portion" of the shoe main body means. The patent does not provide direct support for this particular aspect of the claimed invention. However, the ordinary meaning of "closed" is that there is continuity in the structure in question. **[1]** Para [6] and Fig. 1 disclose that the stepping plate 1 and	

Claim	Feature	Meaning	Marks
		the ground-side plate 2 are connected by the joint portion 4. This supports our interpretation of "closed" in accordance with its ordinary meaning as the stepping plate 1, joint portion 4 and the ground-side plate 2 form a single continuous / unbroken line. **[1]** "heel end portion" = the word “end” suggest a farthest back end of a heel portion of the shoe main body **[1]** Accordingly, a skilled reader would construe this aspect as comprising a plate spring where there is continuity in the plate spring at the farthest back end of the heel portion of the shoe main body. **[2]**	
	wherein the plate spring is attached to a lower surface of the shoe main body at a toe portion of the shoe main body.	**“is attached to a lower portion of the shoe main body at a toe portion of the shoe main body” =** “toe portion of the shoe main body” = Reasonable discussion as to where the “toe portion” resides. • Is “toe portion” strictly the region where the toes of a foot reside, or does it cover a broader region that generally relates to the “front” portion/half of the shoe main body? **[1]**	4.5

Claim	Feature	Meaning	Marks
		• Since the plate spring is configured to release stored energy when kicking at the toe portion to generate a powerful kick, see para [21], a skilled person would likely adopt a broad construction of the possible regions covered by the "toe portion" (i.e. the front portion/half of the shoe main body), instead of adopting a strict and narrow interpretation. **[1]** Additionally, the skilled person would construe "toe portion" as being the front portion of the shoe main body that is adjacent to the back portion of the shoe main body where the heel portion resides [**1**]. In addition, the "front" portion of the shoe main body will span from the front end of the shoe main body to a mid-point along a length of the shoe main body – see para 7 and FIG. 4 [**1**] Reasonable discussion as to whether this limitation means that the plate spring must be attached to the lower surface of the shoe main body *only* at the toe end-side, or whether in addition to the toe end-side, the shoe main body may also be attached at one or more	

Claim	Feature	Meaning	Marks
		other locations of the shoe main body. [**0.5**]	
2	A running shoe according to claim 1, wherein the plate spring includes a stepping plate and a ground-side plate with a gap in between, the stepping plate and the ground-side plate being joined together via a joint portion.	**"stepping plate" and "ground-side plate"** = substantially planar members, wherein between the two plates, the stepping plate is closer to the foot and the ground-side plate is closer to the ground for contact **[1]** **"gap"** = a space formed as a result of the ground-side plate being <u>vertically</u> displaced from the stepping plate and the ground-side place, as opposed to other forms of displacement e.g. horizontal displacement **[0.5, but only if *vertical* displacement is specified]** **"joint portion"** = a member that connects the stepping plate and the ground-side plate. **[0.5]** The joint portion may be integral with the stepping plate and/or the ground-side plate, and <u>does not</u> have to be a separate member of the plate spring; paragraph [12]: "joint portion 4 may be integrally molded of the same material as the hard stepping plate 1 and the hard ground-side plate 2. In such case, a bent-over part of the stepping plate 1 and the ground-side plate 2 that are integrally constructed functions as the joint portion 4." **[0.5]**	2.5

Claim	Feature	Meaning	Marks
3	A running shoe according to claim 2, further comprising an energizing member provided at the toe portion of the gap between the stepping plate and the ground side plate that energizes the gap so as to widen the gap.	"**energizing member**" = any member which performs the recited function of energizing the gap **[0.5]** "**energizes the gap so as to widen the gap**" = plain meaning of "energize" is to supply energy to something. **[0.5]** In this case, the energizing member provides energy to widen the vertical displacement between the stepping and ground-side plates; para [21]. **[0.5]**	1.5
4	A running shoe according to claim 3, further comprising a connecting member that is provided at the toe portion of the gap between the stepping plate and the ground-side plate and connects the stepping plate and the ground-side plate so as to prevent the stepping plate and the ground-side plate from becoming horizontally displaced.	**"further comprising a connecting member that is provided at the toe portion of the gap"** "connecting member" = any member that connects to the stepping plate and the ground-side plate at the toe portion of the gap, as construed; para [0019] **[0.5]** **"prevent the stepping plate and the ground-side plate from becoming <u>horizontally displaced</u>"** = prevents movement of the stepping and ground-side plates in the left-right direction (that causes wobbling when the running shoe is being used); para [17] **[0.5]**	1
5	A running shoe according to claim 1, wherein the plate spring is formed so as to be curved in an up-down	**"curved in an up-down direction in accordance with the shape of the sole of a human foot" =**	3.5

Claim	Feature	Meaning	Marks
	direction in accordance with the shape of the sole of a human foot.	"up-down direction" = Shape of the plate spring is curved when seen from a side of the running shoe; para [0031] **[0.5]** "curved…in accordance with the shape of the sole of a human foot" = Reasonable discussion as to whether the plate spring is required to curve according to the entire sole of a human foot, or whether it suffices as long as the plate spring is curved to any sole portion of the human foot. While Figs. 1-5 show the stepping plate 1 and the ground-side plate 2 being curved according to the *entire* sole of the human foot, para [9] only discloses the central part of the plate spring being "upwardly curved in a central part thereof". This is for "[achieving] a smooth transfer of weight between landing on the heel and kicking off the toe". Thus, the skilled reader would understand that it is sufficient for the plate spring to be curved at the portion which corresponds with the central part of the sole of the human foot. **[3]**	

[NB: Marks will be awarded accordingly for alternative interpretations that are reasonably sound]

CONSTRUCTION: TOTAL = 25.5 marks

(II) INFRINGEMENT

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
1	A running shoe, comprising:	**"running shoe"** = any shoe that is <u>suitable for</u> running [0.5] This thereby excludes shoes for other purposes besides running due to injury risks. Examples include sandals, slippers, etc. [0.5] "comprising" = must include all the features listed in the claim, but not limited thereto [0.5]	**Present – Athletic shoes only** Athletic shoes are suitable for running and can be considered "running shoes". **[1]** However, the shoe types that are not suitable for running (e.g. walking shoes and slippers) will not be covered. **[0.5]**	1.5
	a shoe main body into which a foot is insertable; and	**"shoe main body"** = the terms "main" and "into which" suggest that the body provides a housing for a foot therein; e.g. Figs 1-5: "10" [0.5] These requirements of the "shoe main body" again exclude certain types of footwear e.g. slippers [0.5]	**Present – Athletic shoes** The athletic shoes provide housing for a foot therein, and will be covered. **[1]** Walking shoes suitable for running will be covered by virtue of "running shoes". **[0.5]** On the other hand, slippers will not be covered. **[0.5]**	2

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	a plate spring that is large enough to cover a length of the shoe main body, is attached to a lower portion of the shoe main body, and is closed at a heel end portion thereof,	**"plate spring"** = a substantially planar device/assembly that provides a resilient force upon deformation, in order to return to its original shape or position when the resilient force is released. [0.5] Additionally, a plate spring is planar in structure, as opposed to other non-planar spring types e.g. coil spring mentioned in paragraph [4] [0.5] **"cover a length of the shoe main body" =** "cover" = plain meaning to mean extend over [0.5] "a length of the shoe main body" = Reasonable discussion as to what "length of the shoe main body" means. • Possible interpretations: Does it includes a plate spring of any length or width of the shoe main body? Or does it strictly cover	**Present** **"plate spring" -** Energy restoring device 10 that is a bent flat spring structure "*for the absorption, distribution, storage and release of energy delivered by the bones of a user's foot during a gait cycle*" (*see* para [2]) is the "plate spring". **[1]** **"cover a length of the shoe main body" -** It can be seen from the figures that device 10 also extends from the toe-end to the heel-end. **[1]**	5

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
		the *entire* length of the shoe main body? [1] • Para [5] states "a plate spring 5 formed below the shoe main body 10 so as to extend along the entire length of the shoe main body 10". [1] • Alternatively, Para [6] states "The plate spring 5 includes a hard stepping plate 1 that extends from a heel-end portion to a toe-end portion of the plate spring 5 and a hard ground-side plate 2 that also extends from the heel-end portion to the toe-end portion" [1] • Also, Para [7] states "The plate spring 5 is attached to a lower surface of the shoe main body 10 at a position on the toe side of the shoe main body 10 (see FIG. 4). Accordingly, the stepping plate 1 of the plate spring 5 moves away from the shoe main body 10 at the heel"		

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
		• Accordingly, a skilled reader would likely construe the plate spring as being limited to span across a length of the shoe main body *at least* between the toe-end side and the heel end portion of the shoe main body. [1] **"is attached to a lower portion of the shoe main body" =** Plain meaning of "attached to" to mean being affixed to the lower portion of the shoe main body (i.e., portion that is closest to the ground). [0.5] "closed at a heel end portion" = Reasonable discussion as to what the spring plate being "closed at the heel end portion" of the shoe main body means. The patent does not provide direct support for this particular aspect of the claimed invention. However, the ordinary meaning of "closed" is that there is continuity in the structure in question. [1]	**"is attached to a lower portion of the shoe main body" -** Device 10 is intended to be part of the sole of an athletic shoe. It is thus to be affixed to a lower portion of the main body of the MightyBoost athletic shoe. **[1]** "**closed at a heel end portion**" - Reasonable discussion as to whether the device 10 is "closed" at a farthest back end of the heel portion of the shoe main body. It is seen that the pivots 50, 54 of the heel support structure 28 are arranged at anterior	

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
		Para [6] and Fig. 1 disclose that the stepping plate 1 and the ground-side plate 2 are connected by the joint portion 4. This supports our interpretation of "closed" in accordance with its ordinary meaning as the stepping plate 1, joint portion 4 and the ground-side plate 2 form a single continuous / unbroken line. [1] "heel end portion" = the word “end" suggests that a farthest back end of the heel portion of the shoe main body [1] Accordingly, a skilled reader would construe this aspect as comprising <u>a plate spring where there is continuity in the plate spring at the farthest back end of the heel portion of the shoe main body</u>. [2]	and posterior ends of the back portion of the shoe main body. **[1]** Although pivot 54 is not arranged at the farthest back end of the heel portion of the shoe main body, pivot 50 is however arranged at the farthest back end of the heel portion of the shoe main body and provides continuity in the heel support structure 28 at the back portion of the shoe main body. Accordingly, only pivot 50 (and not pivot 54) fulfils the meaning of being “closed at a heel end portion thereof” as construed. **[1]**	
	wherein the plate spring is attached to a lower	**“is attached to a lower portion of the shoe main body at a toe portion of the shoe main body” =**	**Present** The device 10 is to be fixed to an underside of the main body of the MightyBoost athletic	1

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	surface of the shoe main body at a toe portion of the shoe main body.	"toe portion of the shoe main body" = Reasonable discussion as to where the "toe portion" resides. • Is "toe portion" strictly the region where the toes of a foot reside, or does it cover a broader region that generally relates to the "front" portion/half of the shoe main body? **[1]** • Since the plate spring is configured to release stored energy when kicking at the toe portion to generate a powerful kick, see para [21], a skilled person would likely adopt a broad construction of the possible regions covered by the "toe portion" (i.e. the front portion/half of the shoe main body), instead of adopting a strict and narrow interpretation. **[1]**	shoe, including at the toe portion of the shoe main body as construed. **[1**, but only if attachment to the toe portion is mentioned**]** **Conclusion: All the features of claim 1 are present in Mikes Footwear's MightyBoost athletic shoes, but not present in other types of footwear such as walking shoes, slippers and sandals.**	

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
		Additionally, the skilled person would construe "toe portion" as being the front portion of the shoe main body that is adjacent to the back portion of the shoe main body where the heel portion resides [1] In addition, the "front" portion of the shoe main body will span from the front end of the shoe main body to a mid-point along a length of the shoe main body – see para 7 and FIG. 4 [1] Reasonable discussion as to whether this limitation means that the plate spring must be attached to the lower surface of the shoe main body *only* at the toe end-side, or whether in addition to the toe end-side, the shoe main body may also be attached at one or more other locations of the shoe main body. [0.5]		
2	A running shoe	**"stepping plate" and "ground-side plate"** = substantially planar members, wherein, between	**Present**	7

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	according to claim 1, wherein the plate spring includes a stepping plate and a ground-side plate with a gap in between, the stepping plate and the ground-side plate being joined together via a joint portion.	the plates, the stepping plate is closer to the foot and the ground-side plate is closer to the ground for contact [1] **"gap"** = a space formed as a result of the ground-side plate being <u>vertically</u> displaced from the stepping plate and the ground-side place, as opposed to other forms of displacement e.g. horizontal displacement [0.5, but only if *vertical* displacement is specified] **"joint portion"** = a member that connects the stepping plate and the ground-side plate. [0.5] The joint portion may be integral with the stepping plate and/or the ground-side plate, and	**"stepping plate" and "ground-side plate" -** The device 10 includes a stepping plate (i.e. first support structure 12) **[1]**; and a ground-side plate (i.e. front support structure 24 **and** heel support structure 28) **[2**; No mark to be awarded if the ground-side plate is identified to be only either structure 24 or 28. The ground-side plate has to be made up of *both* structures because of the requirements for a joint portion in this claim 2, and a connecting member at the toe end in this claim 4.**]** **"gap" -** The first support structure 12 is vertically displaced from both the structures 24, 28 **[1]** "**joint portion**" – Hinge 50 and first posterior support beam 52 which join the first support structure 12 to the heel support structure 28 **[1]**	

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
		does not have to be a separate member of the plate spring; paragraph [12]: "joint portion 4 may be integrally molded of the same material as the hard stepping plate 1 and the hard ground-side plate 2. In such case, a bent-over part of the stepping plate 1 and the ground-side plate 2 that are integrally constructed functions as the joint portion 4." [0.5]	**[Alternatively, either hinge 50 or hinge 54 alone can be considered as the "joint portion" [1; if the preceding mark is not awarded]]** Reasonable discussion on whether the hinge 32 and first anterior support beam 34 may alternatively be the "joint portion". **[2]** • Possibly so, but if this construction were taken, then these elements cannot also be said to be the "connecting member" in claim 4. • Thus, the former construction is preferred as it maximises the number of infringed claims. [If the alternative construction is mentioned but without any discussion, 1 mark to be awarded, but no marks to be awarded if the same	

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
			features were later relied upon in respect of "energizing member" and "connecting member" in claims 3 and 4, respectively.] **Conclusion: All the features of claim 2 are present.**	
3	A running shoe according to claim 2, further comprising an energizing member that energizes the gap so as to widen is provided	"**energizing member**" = any member which performs the recited function of energizing the gap [0.5] "**energizes the gap so as to widen the gap**" = plain meaning of "energize" is to supply energy to something. [0.5] In this case, the energizing member provides energy to widen the vertical displacement between the stepping and ground-side plates; para [21]. [0.5]	**Present** The front support structure 24 further comprises a flexible pivot 36, which connects the anterior end portion 23 of the first support structure 12 and the first anterior support beam 34, and which provides load transfer by dampening and providing energy storage associated with impact of the metatarsal bones; para [4]. Accordingly, the pivot 36 energizes the vertical displacement between the first support structure 12 and the structure 24, to widen it at the toe end in the device to generate a boost or kick. **[2]**	2

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	at a toe portion of the gap in the plate spring.		**[Alternatively, the hinge 32 can be considered as an "energizing member" [2, if the preceding 2 marks aren't already awarded and adequate reasoning is provided]]** **Conclusion: All the features of claim 3 are present in Mikes Footwear's MightyBoost athletic shoes.**	
4	A running shoe according to claim 2, further comprising a connecting member that is provided at	**"further comprising a connecting member that is provided at a toe end of the gap"** "connecting member" = any member that connects to the stepping plate and the ground-side plate; para [0019] [0.5] "provided at a toe end of the gap between the stepping plate and the ground-side plate" =	**Present** The hinge 32 which connects the first support structure 12 (i.e., the "stepping plate") to the second anterior support beam 38 (i.e., the "ground side plate"), and is provided adjacent to the ball of a foot is the "connecting member". **[1]** **[Alternatively, the hinge 36 can be considered as an "energizing member" [1,**	2

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	the toe portion of the gap between the stepping plate and the ground-side plate and connects the stepping plate and the ground-side plate so as to prevent the stepping plate and the ground-	**"prevent the stepping plate and the ground-side plate from becoming <u>horizontally displaced</u>"** = prevents movement of the stepping and ground-side plates in the left-right direction (that causes wobbling when the running shoe is being used); para [17] [0.5]	**if the preceding mark isn't already awarded and adequate reasoning is provided]]** [Note: The interpretation of "connecting member" should be consistent with that of "joint portion" in claim 2. No marks to be awarded for this section if an inconsistent interpretation is taken – e.g., the same element is said to be both the "joint portion" and the "connecting member".] The hinge 32 is able to prevent the structures 12 and 38 from becoming horizontally displaced *vis-a-vis* each other; see para 3 ("Hinges 32 and 36 are flexible pivots that provide load transfer by dampening and providing energy storage associated with impact of the metatarsal bones (in the ball of the foot)."). **[1]**	

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	side plate from becoming horizontally displaced.		**Conclusion: All the features of claim 4 are present in Mikes Footwear's MightyBoost athletic shoes.**	
5	A running shoe according to claim 1, wherein the plate spring is formed so as to be curved in an up-down direction in accordance with the shape of the sole of	**"curved in an up-down direction in accordance with the shape of the sole of a human foot" =** "up-down direction" = Shape of the plate spring is curved when seen from a side of the running shoe; para [0031] [0.5] "curved…in accordance with the shape of the sole of a human foot" = Reasonable discussion as to whether the plate spring is required to curve according to the <u>entire</u> sole of a human foot, or whether it suffices as long as the plate spring is curved to <u>any</u> sole portion of the human foot. While Figs. 1-5 show the stepping plate 1 and the ground-side plate 2 being curved	**Present** The device 10 is curved in a vertical direction when seen from a side of the shoe; para [9] **[1]** **Conclusion: All the features of claim 5 are present in Mikes Footwear's MightyBoost athletic shoes.**	1

Claim	Feature	Meaning	Present in alleged infringing product?	Marks
	a human foot.	according to the *entire* sole of the human foot, para [9] only discloses the central part of the plate spring being "upwardly curved in a central part thereof". This is for "[achieving] a smooth transfer of weight between landing on the heel and kicking off the toe". Thus, the skilled reader would understand that it is sufficient for the plate spring to be curved at the portion which corresponds with the central part of the sole of the human foot. [3]		

[NB: Marks will be awarded accordingly for infringement analysis based on alternative interpretations that are reasonably sound]

INFRINGEMENT: TOTAL = 21.5 marks

(III) NOVELTY

Claim	Feature	Document C	Marks	Document D	Marks
1	A running shoe, comprising:	**Present** Disclosed is an athletic shoe that is suitable for running. **[1]**	1	**Present** Disclosed is an athletic shoe 2 that is suitable for running. **[1]**	1
	a shoe main body into which a foot is insertable; and	**Present** The foot support portion 10 of the athletic shoe provides a housing for a foot; see Fig. 1 **[1]**	1	**Present** The athletic shoe 2 provides a housing for a foot; see drawings. **[1]**	1
	a plate spring that is large enough to cover a length of the shoe main body, is attached to a lower portion of the shoe main body, and is closed	**Absent** The coil spring 26 comprised in the sole 12 is not planar in structure and thus cannot be considered to be the “plate spring” in claim 1 on its own. **[1]** However, the sole 12 (comprising the upper portion 16 and the lower portion 18), or the combination of the coil spring	5.5	**Present** Both the leaf spring 4 and the lower sole 3 extend over a length of the athletic shoe 2 between its heel end portion (i.e. back portion) and its toe-end side (i.e. front half portion) of the athletic shoe 2, with the leaf spring 4	5

Claim	Feature	Document C	Marks	Document D	Marks
	at a heel end portion thereof,	26 AND the sole 12 (comprising portions 16, 18) may be considered to be the "plate spring" in claim 1, because they provide a restoring force to restore an original position. **[1]** For instance, it is disclosed that the ground impacting surface 14 may be EVA or polyurethane, which are materials that are elastic in nature and may thus provide the restoring force. **[1]** Also, both the portions 16, 18 are planar in structure **[0.5]**, extend over a length of the athletic shoe from a back portion to a front half portion **[0.5]**, and the portion 16 is affixed to a lower portion of the foot support portion 10. **[0.5]** However, the coil spring 26) that connects between portion 16 and portion 18 does not provide continuity of the sole		being fixed to a front part of the upper sole 1. **[1]** Doc D discloses that either or both of the upper and lower soles 1, 3 could be elastic and both are connected to the leaf spring 4. These structures are planar and together provide a restoring force. Therefore, the leaf spring 4 together with both of sole 1 3, or sole 3 alone, together constitute the "plate spring"; see drawings **[2; only if at least the combination of leaf spring 4 and lower sole 3 is identified]** Candidates will need to discuss if the features of the plate spring as recited in claim 1 are present, particularly in being "closed at a heel end portion" of the athletic shoe 2.	

Claim	Feature	Document C	Marks	Document D	Marks
		12 at the farthest back of the heel portion (i.e. back portion) of the sole 12. **[1]**		According to this aspect of the claim as construed, there needs to be continuity of the plate spring at the farthest back end of the heel portion of the shoe main body. So long as the "plate spring" comprises *at least* the leaf spring 4 and the lower sole 3, there will be continuity at the farthest back end of the heel portion (i.e. back portion) of the athletic shoe 2, so that the requirement of a "closed" heel end portion is met. **[2]** *[No marks for asserting that the spring lead 4 itself reads onto this particular aspect of the claim]*	
	wherein the plate spring is attached to a lower surface of	**Present**	1	**Present**	1

Claim	Feature	Document C	Marks	Document D	Marks
	the shoe main body at a toe portion of the shoe main body.	The portion 16 is fixed to an underside of the foot support portion 10 at least at the toe portion (i.e. front half portion) of the foot support portion 10 **[1]**		The leaf spring 4 is fixedly joined to an underside of shoe main body at the toe portion (front half portion) of the athletic shoe 2 **[1]** In an alternative analysis whereby the upper and lower soles 1,3 and the leaf spring 4 are considered as the "leaf spring" in claim 1, it is seen that the upper sole 1 is also fixedly joined to an underside of the shoe main body at the toe portion of the athletic shoe 2 [1; if the preceding mark wasn't awarded]	
2	A running shoe according to claim 1, wherein the plate spring includes a stepping plate and a ground-side plate with a gap in	**Present** The portion 16 (stepping plate) **[0.5]** and the portion 18 (ground-side plate) **[0.5]** are vertically displaced **[0.5]** when the athletic shoe is being used; and the coil spring 26 (joint portion) connects	2	**Present** The spring leaf 4 (stepping plate) **[0.5]** and the lower sole 3 (ground-side plate) **[0.5**] are vertically displaced **[0.5]** when the athletic shoe is in use; and these two	2

Claim	Feature	Document C	Marks	Document D	Marks
	between, the stepping plate and the ground-side plate being joined together via a joint portion.	between the portion 16 and the portion 18 of the sole 12 **[0.5]**		portions are connected by the spring leaf 4 (joint portion) **[0.5]**	
3	A running shoe according to claim 2, further comprising an energizing member that energizes the gap so as to widen is provided at the toe portion of the gap in the plate spring.	**Not present** The athletic shoe does not comprise the energizing member in claim 3, because there is no member arranged between the portion 16 and the portion 18 at the front half portion of the vertical displacement between portions 16, 18 of the sole 12 **[1]**	1	**Present** The specification teaches that additional springs (e.g., additional pneumatic springs) may be provided in the *front* and rear parts of the shoe. A pneumatic spring provided at the front end of the shoe will constitute an "energizing member"; see para [6] **[1]**	1
4	A running shoe according to claim 2, further	**Not present**	1	**Arguably Present / Not Present**	1

Claim	Feature	Document C	Marks	Document D	Marks
	comprising a connecting member that is provided at the toe portion of the gap between the stepping plate and the ground-side plate and connects the stepping plate and the ground-side plate so as to prevent the stepping plate and the ground-side plate from becoming horizontally displaced.	The athletic shoe does not comprise the connecting member in claim 4, because there is no member arranged between the portion 16 and the portion 18 at the front half portion of the sole 12 **[1]**		The upper sole 1 and the leaf spring 4 are shown to be fixedly joined at the front of the shoe. This joint is the "connecting member". **[1]** Alternatively, paragraph [6] discloses that a pneumatic spring can be arranged in the front part of the shoe. However, it is not explicitly disclosed that such a pneumatic spring connects between the leaf spring 4 and the lower sole 3, nor preventing the “stepping plate” and the “ground-side plate” from moving in a left-right direction. [1; if the preceding mark wasn’t awarded] In yet another alternative analysis whereby the leaf spring 4 and the lower sole 3 are taken as the “leaf spring” in claim 1, then the	

Claim	Feature	Document C	Marks	Document D	Marks
				"connecting member" feature of claim 1 is absence in Doc D, because there is no such connecting member arranged between the leaf spring 4 and the lower sole 3. [1; if the preceding mark wasn't awarded]	
5	A running shoe according to claim 1, wherein the plate spring is formed so as to be curved in an up-down direction in accordance with the shape of the sole of a human foot.	**Not present** None of the portions 16, 18 of the sole 12 is curved when seen from the side of the athletic shoe according to at least a central part of a human foot **[1]**	1	**Not Present** The specification teaches that the leaf spring 4 and lower sole 3 may bend when the shoe is in use; see paras [3] and [5]. However, these structures are not shown to curve according to at least a central part of the human foot; see Fig. 1 **[1]** *[Marks should be awarded accordingly for novelty arguments based on alternative claim interpretations, so long as they are reasonably sound]*	1

[NB: Marks will be awarded accordingly for novelty analysis based on alternative interpretations that are reasonably sound]

NOVELTY: TOTAL = 26.5 marks

(IV) INVENTIVE STEP

[As claim 5 is believed to be novel over each of Documents C and D, inventiveness of claim 5 should be considered.]

It can argued that the common general knowledge is that the sole of a running shoe that is curved in accordance with at least a central part of a human foot typically provides more stability in lifting. Therefore, a court might also find claim 5 obvious the combination of each of Documents C and D with the common general knowledge. [2]

[As claims 1 to 4 are believed to be novel over Document D, there will be no need to consider the inventive step of these claims if Document D qualifies as valid prior art. However, since the publication date of Document D cannot be ascertained at this point, Document D may not necessarily qualify as valid prior art. If Document D does not qualify as valid prior art, then Document C will be the only prior art and the inventiveness of claims 1-4 over Document C would have to be considered.]

Claim 1 requires the plate spring of the claimed running shoe to be closed at a heel end portion, meaning there is continuity in the plate spring at the farthest back end of the shoe main body, as construed. However, it is seen that the continuity provided by the coil spring 26 between portions 16, 18 of the sole 12 in the drawings of Document C is not at the farthest back end of the shoe main body - rather, the spacer 22 is spaced at a distance from the farthest back end of portion 16. Since Document C teaches use of the coil spring 26 (instead of any other spring type), a skilled reader would likely be motivated to provide the necessary space allowance, in order to accommodate the coil spring 26. Thus, we believe that a court will find claim 1 to be inventive over Document C. [2]

Accordingly, at least by virtue of claims 2 to 4 being directly or indirectly dependent on claim 1, if claim 1 is inventive over Document C, these dependent claims will also be inventive over Document C. [**0.5**]

If claim 1 is not inventive over Document C, then claim 2 is similarly not inventive given that the feature therein is disclosed in Document C. In such a case, the features of claims 3 and 4 should be assessed for inventiveness.

Claim 3 is directed at the energizing member of the running shoe as claimed. Specifically, “energizing member” has been construed as a member at the toe portion of the shoe that supplies energy to widen the gap between the stepping plate and the ground-side plate of the plate spring. The question is whether there is anything in Document C to teach or suggest that would be advantageous to provide any structure or member to supply energy to the gap at the toe portion in this manner. This does not seem to be the case since Document C is concerned only with the "heel construction" (*see* para 1). **[1]**

Furthermore, it is seen from the drawings that the coil spring 26 in Document C already occupies a large portion of the gap between the portions 16, 18 and so it may not be practically feasible to include another member within the toe portion of the athletic shoe due to space constraint. Accordingly, we believe a court will find the feature of claim 3 to be inventive over Document C. **[1]**

In an alternative analysis, as the energizing member can be any type of spring for this purpose, including the coil spring 26 disclosed in Document C, it can be argued that it might be obvious for a skilled reader of Document C to provide another coil spring (similar/identical to coil spring 26) at the toe portion of the athletic shoe of Document C, a court may find the feature of claim 3 to lack an inventive step over the document. [2 for an alternative analysis]

Claim 4 is directed at the connecting member of the running shoe as claimed. Specifically, “connecting member” has been construed as a member that connects to the stepping plate and the ground-side plate of the plate spring at the toe portion of the shoe, to prevent movement of the plates in the left-right direction.

However, in Document C, the portions 16 and 18 are directly attached to each other, and there is nothing in the document to teach or suggest that it would be advantageous to introduce a separate member in the toe portion of the athletic shoe, to prevent movement of the portions 16 and 18 in the left-right direction. **[1]**

Furthermore, necessary space allowance may be needed at the toe portion of the athletic shoe to accommodate any additional member therein, but the narrower space at the toe portion (as opposed to the back portion) of the athletic shoe would inhibit such a configuration. Therefore, it is likely that a skilled reader of Document C would not be

motivated to provide separate coil springs at opposing sides of the toe portions of the athletic shoe. Thus, we believe a court will find the feature of claim 4 to be inventive over Document C. [1].

[Other marks are to be awarded for alternative inventive step arguments and/or inventive step arguments based on alternative claim interpretations, so long as they are reasonably explained.]

INVENTIVE STEP: TOTAL = 8.5 marks

(V) ADVICE AND MISCELLANEOUS

S/N	Issues	Analysis	Marks
1	Possible action and remedies for infringement	If the patent is found to be infringed and valid over the prior art, what can the client do (e.g. notify Mikes Footwear and stores retailing MightyBoost footwear of existence of the granted SG patent **[0.5]**, ensure that the SG patent is renewed and kept in force **[0.5]**), and what remedies will the client be entitled to if successful in its claim? **[1]**	2
2	Possible amendments to patent	What possible amendments can be made to strengthen position the claims, i) if Document D is found to constitute prior art(e.g. incorporation of claim 5 into claim 1?) and ii) if Document D is found not to constitute prior art (e.g. incorporate of any other suitable dependent claims into claim 1)? **[2]** Will the amended claims still be infringed under two different scenarios (e.g. observation that a possible amendment of the joint portion protruding outwardly beyond the end of the shoe main body may confer patentability but the amended claims would not be infringed)? **[2]** Does the patent cover the additional range of footwear (e.g. slippers, sandals) that the patentee has in mind for business expansion? If not, is it possible to amend the claims in order that they do? No, because broadening claim amendments are not allowed post-grant. **[2] No recourse for divisional filing [1 as the SG patent is already granted; if the preceding mark for impermissible broadening claim amendments wasn't awarded]**	6

S/N	Issues	Analysis	Marks
3	Post-grant amendment applications – discretionary grounds	Any possibility of the amendments being denied on absolute grounds (e.g. added matter, no broadening amendments)? [1] Discuss the possibility of amendments being denied on discretionary grounds: possible repercussions of (i) undue delay; (ii) lack of full and frank disclosure; and/or (ii) seeking an unfair advantage of the unamended patent on post-grant amendment applications. [1] • Undue delay is a question of fact and depends on whether patentee can provide a satisfactory explanation for the delay. The clock starts ticking from the time the patentee knows or ought reasonably to have known of the need to amend. [1] • Requirement of full and frank disclosure – Documents C and D and the USPTO office action will have to be disclosed when applying to amend. [1] • Threatening an alleged infringer based on a patent which the owner knows to be invalid is conduct which would be considered seeking an unfair advantage.– Best to apply to amend before writing to the infringer to avoid this issue. Also reduces the chances that the infringer may oppose the amendments. [1]	5
4	Groundless threats	Discussion on whether the client could be liable for groundless threats claim if they contact Mikes Footwear with the threat of commencing patent infringement proceedings unless they cease sales of their MightyBoost® footwear, who can bring	2

S/N	Issues	Analysis	Marks
		action [1], and what remedies would the claimants be entitled to if successful. [1]	
5	Assess patent risk from Mikes Footwear and explore the option of patent cross-licensing, if necessary	Mikes Footwear owns a patent portfolio that is directed at footwear – hence, before Gary's Footwear decides to assert their SG patent against Mikes Footwear, it would be preferable if they could investigate a potential patent risk by assessing potential infringement of Mikes Footwear's patents by Gary's Footwear. [1] For instance, if it turns out that Gary's Footwear potentially infringes upon Mikes Footwear's patents, then there is a risk of a counterclaim by Mikes Footwear if the client sues. [1] As Mikes Footwear and Gary's Footwear seem to be operating in different key markets (with the exception of the SG market), the parties should preferably explore the option of patent cross-licensing to mitigate potential patent risks and allow both parties to compete in different markets and/or based on other aspects of the business like providing superior product quality and customer service in their respective key markets. Litigation should always be the last resort, only if all else fails. [1]	3

ADVICE AND MISCELLANEOUS: TOTAL = 18 marks

Some additional points for consideration:

Discussion of "prior use" by Mikes Footwear [1]

Discussion of "innocent infringement" by Mikes Footwear [1]

Discussion of potential revocation of the SG patent by Mikes Footwear [1]